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Humanities 2.0: Promise, Perils, Predictions

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There has never been a great age of science and technology without a corresponding flourishing of the arts and humanities. In any time or place of rapid technological advance, those creatures we would now call humanists—literary commentators; historians; philosophers; logicians; theologians; linguists; scholars of the arts; and all manner of writers, musicians, and artists—have also had a field day. Perhaps that generalization is actually a tautology. Great ages of science are great ages of the humanities because an age isn't a historical period but a construct, and constructs are the work of humanists. Throughout history, there have been many momentous scientific discoveries that simply drift into the culture and are adapted without any particular new social or philosophical arrangements. It is the humanistic articulation of the significance of scientific change that announces a new episteme, a world-altering, even metaphysical, transformation. While scientists and engineers are responsible for the discoveries and inventions, humanists consolidate those experimental findings, explain them, and aggregate their impact in such a way that we suddenly have not just the new but an epoch-defining paradigm shift. ($E = mc^2$ is an equation; the concept of relativity is a defining intellectual model.) The humanistic turn of mind provides the historical perspective, interpretive skill, critical analysis, and narrative form required to articulate the significance of the scientific discoveries of an era, show how they change our sense of what it means to be human, and demarcate their continuity with or difference from existing ideologies.

Although we live in an unusually vibrant moment that, in historical terms, can be defined by its flourishing of technology and humanism, the contemporary rhetoric of academic humanists is one of exclusion, as if we had not been invited to sit at the table. It is outside the province of this essay to demonstrate that this is an age of populist humanism, and so I simply point to the phenomenon of artistic, architectural, historical, and crosscultural tourism and the concomitant building of concert halls and museums on a scale unequaled since the late nineteenth century, a comparable era of technological transformation. It is difficult to understand why so many humanists feel irrelevant to a culture that names the “creative class” as

one of its defining features. As scholars such as Toby Miller and George Yudice have noted, humanists should be addressing the role of humanistic culture and cultural policy in the neoliberal economy instead of wringing their hands over the lack of their role in that economy.

Since the advent of the desktop computer interface (commonly figured as 1983) and the Internet (1991), virtually every mode of expression has been altered, and the very valuing of self-expression is rampant. “What oft was thought, but ne’er so well express’d” has so many new venues that a term such as “new media” needs an addendum almost daily. We live in the information age, not the age of computation, not the age of genomics. I would insist that this is our age and that it is time we claimed it and engaged with it in serious, sustained, and systemic ways.

One impetus of this essay, then, is to counter the academic humanist’s pervasive stance of isolation with an intellectual call to attention and action. Are the material conditions for the production of humanistic scholarship as good as they should be? Of course not. Dozens of educators, including me, have noted that humanists occupy an increasingly fraught space in the academy (Perloff; Weisbuch). However, I am not convinced that science and technology are the problem any more now than they have been for the last seventy or eighty years. The so-called crisis in the humanities is nothing new. Even in *The Two Cultures and the Scientific Revolution* (1959), C. P. Snow was already lamenting that “thirty years ago the cultures had long ceased to speak to each other” and blamed the bifurcation in part on the devaluing of humanists: “young scientists now feel that they are part of a culture on the rise,” while humanists feel their worth “in retreat” (18, 19). If humanists have been feeling put down for that long, clearly our sky-is-falling rhetoric isn’t helping matters.

Perhaps we need a paradigm shift. Perhaps we need to see technology and the humanities not as a binary but as two sides of a necessarily interdependent, conjoined, and mutually constitutive set of intellectual, educational, social, political, and economic practices. More to the point, we need to acknowledge how much the massive computational abilities that have transformed the sciences have also changed our field in ways large and small and hold possibilities for far greater transformation in the three areas—research, writing, and teaching—that matter most.¹ We are not exempt from the technological changes of our era, and we need to take greater responsibility for them. We should be thinking about them critically, considering what they mean for us, and working to shape them to the future that we desire.

Humanities 1.0: A Brief Sketch

For the title of this essay, I draw from the popular (if contested) terminology coined by the media prognosticator Tim O’Reilly—Web 1.0 and Web 2.0. The distinctions between these phases of the Internet are becoming murky, and the terms have been

appropriated for a range of commercial and even propagandistic uses that humanists need to be more cognizant of. Still, the terms are useful for this essay in that they help delineate the developmental stages of the Internet, which in turn help us envision an ever-expanding role for the humanities vis-à-vis technology.

Historically, Web 1.0 demarcates the first generation of the World Wide Web, basically from 1991 to the dot-com bust of fall 2001. Functionally, Web 1.0 is best characterized under the general rubric of data: primarily websites and tools that allowed for massive amounts of archiving, data collection, data manipulation, and searching, sites and tools mostly created by experts or commercial interests for the benefit of users worldwide. Web 1.0 has been described as an approach from the few to the many.

Web 2.0 characterizes the second generation of the Internet, after the collapse of 2001. O'Reilly was not oblivious to the financial implications of the dot-com bust and coined the term Web 2.0 partly to reassure and rally investors, to suggest that the new version of the information age could be profitable. Web 2.0 describes not only the new set of tools but also the new relationships between producers and consumers of those tools. In its most idealistic manifestation, Web 2.0 is best defined by interactivity and user participation (rather than data aggregation). According to O'Reilly, networking is the new Internet's single most important attribute, while others point to the significance of customization and collaboration. Web 2.0 includes all forms of corporate or social networking (from Google to MySpace); collaborative knowledge building (sites such as Wikipedia); user-generated content (including photo-sharing sites like Flickr or video-posting sites like YouTube); and blogs, wikis, virtual environments, and other sites that use a many-to-many model of participation and customization.

O'Reilly's terminology is an oversimplification, but it is useful for historicizing first-generation humanities computing (Humanities 1.0) and for suggesting the possibilities and perils of a networked, interactive, collaborative Humanities 2.0.² Humanities computing includes the careful digitizing of textual and, increasingly, multimedia archives engaged in by scholars and librarians the world over for something like the last two decades. These online resources have transformed how we do research and who can do it. Except for a few holdouts, we all now do much of our research online. Anyone reading this essay online or who has spent the morning perusing articles at Project Muse or JSTOR should be grateful that the humanities were not left behind in the most massive project of synthesizing, aggregating, and archiving data that the world has ever known.

Whether our particular scholarly interests draw us to the Perseus Digital Library (<http://www.perseus.tufts.edu>), containing classical texts, or to Ars Electronica (<http://www.aec.at/en/>), a platform for digital media and culture, we have at our disposal an array of rich, diverse, and compelling digital resources.³ Nor are these merely tools. Great archives such as the International Dunhuang Project (<http://idp.bl.uk>) have recreated vibrant transnational cultural centers that were obliterated in

the eighteenth and nineteenth centuries as part of colonialism's quest for loot. The Dunhuang Project challenges accepted definitions in the humanities, such as what constitutes and is constituted by the West.

My area of research was transformed by Humanities 1.0. In the 1980s, when I was working on *Revolution and the Word: The Rise of the Novel in America*, I spent hours in archives, poring over microfilms in the dizzying light of a discarded microfilm reader that I carted up to my office.⁴ I called it the Green Monster, without affection, and I cannot summon up even an ounce of nostalgia for that creature, which captured so many hours of my early career. I can't say whether or not my overall arguments would have changed had they been written with the support of the new digital archives, but if I were to start this research today, what I cited, what I claimed, and where I made hypotheses or even speculations would be given far greater materiality. Whereas early American fiction was barely a category in card catalogs when I was researching *Revolution and the Word*, there are now searchable databases of early American imprints, eighteenth-century European imprints, South American and (growing) African archives, and archives in Asia as well. A contemporary scholar could, in far less time than it took me, not only search U.S. databases but also make comparisons across and among popular political movements worldwide (from democracy to feminism to abolitionism) and possibly make arguments about the spread of the popular novel and about its ideologies of self-governance along with the worldwide transportation of commodities and human beings (through travel, migration, indenture, enslavement, and escape).

Suffice it to say that Humanities 1.0—computational humanities—has changed the way we do research; the kinds of questions we can ask; and the depth, breadth, and detail of the answers we can provide to those questions. My colleague Peter H. Wood, a historian whose seminal 1974 *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* was reissued in 1996, suggested whimsically that books written before the advent of digital archives and search engines should come with a special sticker affixed to the front cover: "Extra Credit."

Toward Humanities 2.0: Collaborative Archives, Interpretation, Theory

The computational tools, the multilingual and transnational archives at the disposal of humanists, and the numbers of scholars and students globally who have access to any given digital textual database have, I believe, been factors in transforming the paradigms of humanistic scholarship and moving us toward Humanities 2.0. Hybridity, exchange, flow, and cultural transaction are all explored more responsibly and adventurously when the resources of many nations, in many languages, have been digitized, made interoperable, and offered for research by scholars around the world, each of whom brings a local store of knowledge and experience to the theoretical, interpretive enterprise. Data transform theory, theory stated or assumed, transforms data into interpretation. As any student of Foucault would insist, data

collection is really data *selection*. Which archives should we preserve? Choices based on a complex ideational architecture of canonical, institutional, and personal preferences are constantly being made.

As more and more archives are opening themselves not just to unrestricted access by users, not just to questions and challenges posed by users, but to actual input and contribution by users (including the input of multiple interpretations and theories), we are moving to a new generation of digital humanities. Long-standing projects such as NINES (Networked Infrastructure for Nineteenth-Century Electronic Scholarship), led by the romanticist and textual theorist Jerome McGann, are augmenting professional, refereed, peer-reviewed archives with features that allow individual users to customize the archive (<http://www.nines.org>). Users can reissue NINES objects in their own exhibits, syllabi, essays, and timelines. They can tag objects and post their personal classification systems (“folksonomies”) on the NINES site where other users can view them.

I suspect that soon this kind of Humanities 2.0 customization and collaboration will be pushed to another level, as Wikipedia-like functions augment professionally archived sources. At sites with such functions, users might contribute information about the projects in which they are using the archive (from syllabi to ethnographic reports), or engage in theoretical debates in an open forum, or even contribute digitized content to the archive itself. A memoir site, for example, might have a hosting function where any user can upload an ancestor’s diary accompanied by photographs or portrait paintings. Other users might comment on, augment, and correct content or offer different interpretations of what the content means for a new theory of affect and intersubjectivity or for new understandings of the interactions among governmental policy, migration, race, gender, and religion. Courses might be based on students’ participating in such a knowledge-sharing enterprise. A professor might teach a course on global information flows in which students engage their worldwide social networks in cocreating an archive that traces deployments of specific technologies, networking sites, and corporate or national policies. The possibilities for topics and uses are as limitless as our imaginations.

The questions that open repositories pose are also limitless. Once we champion openness, we enter a new world of social, intellectual, and curatorial rules.⁵ An open repository challenges the borders between disciplines as well as between professionals and amateurs, between scholars and knowledge enthusiasts. It raises questions of privilege and authority as well as ethical issues of credibility and responsibility, privacy and security, neutrality and freedom of expression.

Decentering Knowledge and Authority

Much of our lives as academics depends on peer review. For a profession to relinquish the authority of the referee is a major step. As John Seely Brown has noted, it

took professional astronomers several years before they came to appreciate that their field would be richer if they were more open to the energetic observations and theories of amateur astronomers. While most amateur astronomers are good observers who report useful, even incalculably valuable, celestial findings, some among the army of amateur sky watchers are motivated by a desire to protect Earth from martians and other invading space aliens. At some point, professional astronomers had to make a judgment call. They realized there were more advantages than disadvantages to openness and evolved checks for the credibility of observations offered by amateur astronomers.⁶

These profound issues are at the heart of our profession and at the heart of the various debates on the use, importance, and credibility of Wikipedia (the largest encyclopedia the world has ever known, one created partly by volunteer and amateur collaborative labor and the standard bearer for both the controversy and the intellectual potential of Web 2.0).⁷ How does one put value on a source when the refereeing is performed by someone who has not been authorized and credentialed to judge?⁸ Who are one's peers when the validity of the sources is determined by community standards enforced by various users, not by professionals who have been certified as the authorities of the community?⁹ The distinction is important, because for many of us in the humanities it is foundational to our belief system, our reward system, and the implicit (and rarely spoken) assumptions about who constitutes a peer in peer review, a process on which our profession is based.

As so often happens when we analyze the new, the discussion of peer review for collaborative knowledge-building sites such as Wikipedia throws into relief practices so widely accepted that we rarely question them anymore.¹⁰ The very concept of peer review needs to be defined and interrogated. We use the term as if it were self-explanatory and unitary, and yet who does and does not count as a peer is complex and part of a subtle and often self-constituting (and circular) system of accrediting and credentialing (i.e., "good schools" decide what constitutes a "good school"). We peer review in different modes in different circumstances. (I've known some kind teachers to be savage conference respondents and vice versa.) Humanities 2.0 peer review extends and makes public the various ways in which we act as professionals who judge one another and contribute to one another's work, whether subtly or substantively.

Peer review is not the only practice whose assumptions are at stake in this next phase of digital humanities. Humanities 2.0 is distinguished from monumental, first-generation, data-based projects not just by its interactivity but also by an openness about participation grounded in a different set of theoretical premises, which decenter knowledge and authority. Additional concepts decentered by Web 2.0 epistemologies include authorship, publication, refereeing, collaboration, participation, customizing, interdisciplinarity, credentialing, expertise, norms, training, mastery, hierarchy, taxonomy, professionalism, rigor, excellence, standards, and status.

Collaborative Writing: "The Future of Learning Institutions in a Digital Age"

I turn my focus on two projects (in one of which I am a participant) that underscore the paradigm-shifting potentialities of next-generation digital humanism. The first, "The Future of Learning Institutions in a Digital Age," deals primarily with collaborative thinking and writing; the second, the Law in Slavery and Freedom Project, is organized primarily around collaborative research and teaching.

The first draft of "The Future of Learning Institutions in a Digital Age" is conventional enough. It is a concept paper cowritten by me and my frequent collaborator on digital humanities projects, the philosopher and race theorist David Theo Goldberg. The process of proceeding from that draft to a final one, however, is quite unusual. It is a collaborative effort, incorporating contributions made by literally dozens of scholars, students, teachers, and concerned individuals who are contributing to discussions happening both online and in a series of public forums.

The concept paper considers the physical and intellectual arrangements of education, especially higher education. It is both a theoretical discussion and an activist proposal for educational reform.¹¹ Among other things, we directly challenge the national educational policy euphemistically called No Child Left Behind, a policy that in fact leaves behind over 30 percent of those entering high school. That 30 percent dropout rate makes the United States seventeenth in educational attainment levels among industrialized nations. We also critique the current academy, examining the obstacles to intellectual life posed by disciplinary and institutional structures and envisioning ways that digitality can help make intellectual linkages against odds. We are also concerned that education (on all levels) is becoming less relevant to the lives of youth today, and we propose institutional reforms directed at the multimedia, multitasking skills and interests of contemporary students. Finally, we advocate engaged, informed, creative, and critical thinking about the information age, which this generation of students has inherited and will shape.

Beginning in January 2006, "The Future of Learning Institutions in a Digital Age" was hosted on a collaborative, online writing tool developed by the Institute for the Future of the Book, a small nonprofit organization dedicated to "investigating the evolution of intellectual discourse as it shifts from printed pages to networked screens" (Davidson and Goldberg, *The Institute for the Future of the Book*). This site allowed dozens of readers to post public commentary on our draft and make bibliographic additions to it. It was rather like a "track changes" document, except that, instead of being shared with one or two readers, the draft was open to anyone on the World Wide Web. The point was not only to write about collaborative modes of thinking but also to engage in them.¹²

In addition to using the collaborative online tool, we held three public forums with humanists and social scientists concerned with creative learning. Possibly

because of the high value an English professor places on the written word, the online feedback sometimes felt more intimidating than the critique offered in face-to-face exchanges. Texts have status in our profession. Our system of reward and recognition depends on publication. What does it mean to expose one's writing before it is final? Psychologically (I speak only for myself here), I have to restrain myself when there is a new comment posted for all the world to see on the institute's site. I have to stifle the voice that wants to shout, "Hey! It's just a first draft," or, "We already thought of that but just haven't put it in the paper yet." Those defensive responses are not what collaborative thinking is supposed to be about.

Is this new process worth the trouble? Immeasurably. The project has exposed us to bibliographies from many different fields, to the specific uses of terminologies (and their histories) within fields. It has been one of the most fluidly interdisciplinary exchanges that I have yet experienced. It has also taught me how one's words can signal meanings one didn't intend. Reader response is humbling; it is also illuminating. So much of what passes in our profession for response is actually restatement of one's original premises. In an interactive collaborative exchange, one often gains a better sense of assumptions unfolding, a process that helps make one's unstated premises visible (especially to oneself).

So what happens to authorship in such a collaborative environment? Goldberg and I address this issue, both a theoretical and an institutional (i.e., professional) one, in "The Future of Learning Institutions in a Digital Age." I am not sure we know the answer yet (it is one area where we seek the input of others), but we are mindful of what the digital media activist Nicholas Carr has referred to as the "sharecropper" downside of Web 2.0: that is, the many volunteer their time and insights, but too often someone else walks off with the profit or the credit. Needless to say, there will be no monetary profits from "The Future of Learning Institutions in a Digital Age," and we are evolving a model of authorship that both takes responsibility and gives credit. Because the online tool keeps a record of interactions, we will be able to footnote contributors who offered ideas that changed our thinking. We will be able to address contributors with whom we disagree, acknowledging that debate has influenced our final ideas. We will also include, as collaborators, a list of all who participated in the forums and the website discussion, whether or not we used their ideas explicitly in our project, whether or not we agree or disagree with their input. In one way or another, all have helped shape our final project, just as teaching does, if only through forcing us to articulate ideas that seemed self-evident but turned out to embed assumptions we had not consciously addressed. We know that whatever form we devise to acknowledge attribution will be imperfect. But that's the point of Humanities 2.0. It's a process, not a product. There is a latest version but never a final one.

Collaborative Research and Teaching: Law in Slavery and Freedom Project

A second project that fits under the rubric of Humanities 2.0 is also a hybrid of authority and participation, peer review and community contribution. It combines collaborative pedagogy with collaborative research. I refer to the Law in Slavery and Freedom Project, under the leadership of the history professors Martha S. Jones (University of Michigan), Rebecca J. Scott (University of Michigan), and Jean M. Hébrard (École des Hautes Études en Sciences Sociales). This team of scholars, their collaborators, and their students work in the United States, France, Germany, Brazil, Canada, Cuba, the Caribbean, and West Africa. The remarkable project has developed through the close analysis of manuscript documentation from archives in various countries that once were slaveholding societies. Courses are taught simultaneously in different locations, and collaborators work transnationally on projects about the movement and displacement of persons. The participants have, for example, traced the life histories of a Senegambian woman enslaved in Saint-Domingue and her descendants through to the twentieth century, and they have a parallel project on a slaveholding Saint-Domingue emigre and her Atlantic itinerary. They are using digitized images to compare a small set of freedom papers from Senegal with others from Cuba and Saint-Domingue. Pedagogy and research, archive and theory line up to produce an expansive humanism with intellectual breadth, rigor, and inclusiveness. As the Law in Slavery and Freedom Project matures and more of its documents go online, participation will extend beyond the students in the class to a much wider community. If the project ever becomes completely open, it is even possible that anyone could become a collaborator, adding interpretive content, offering critique, or positing new information. This multinational, multilingual, collaborative, interpretive framing of a major intellectual project, where research and teaching are practiced and demonstrated simultaneously and in a public forum, strikes me as the essence of what higher education strives to accomplish. The research and pedagogical possibilities of an open-knowledge commons are breathtaking for scholars and students of the humanities and for a more general public who might be invited into projects that encourage humanistic thinking. Scientists talk about Big Science. I am proposing a Big Humanities. I would venture to say that digitizing (with interoperability and universal access) the entire record of human expression and accomplishment would be as significant and as technologically challenging an accomplishment of the information age as sequencing the human genome or labeling every visible celestial object.¹³

Humanities 2.1: Perils and Predictions

Since May 2007, when I was invited to write this essay, I have revised it twice, motivated by corporate or governmental changes that fuel my concerns about the future

of the Internet. In my daily blogging on the HASTAC site (<http://www.hastac.org>), I find myself alternating between enthusiasm for expansive collaborative projects and jeremiads against such things as Facebook's incursions against privacy, hackers' near-successful attempts to destroy security systems, and corporate and regulatory inroads into so-called net neutrality. With copyright and patent rulings, changes in national security policy, and unseemly corporate mergers, it seems that every day the scholar interested in technology has to be on the alert. Any paean to the potential of Humanities 2.0 thus needs a software update, Humanities 2.1, a reminder that there are always glitches and bugs and viruses in transitional eras. We're still in the beta version of the information age, and there is an urgent need for sustained, humanistic participation to ensure a better version.

Among the frightening issues that need to be addressed are those associated with what Siva Vaidhyanathan calls "the Googlization of everything." His online book in progress is subtitled "How One Company Is Disrupting Culture, Commerce, and Community and Why We Should Worry." What does it mean that Google is, according to Nicholas Carr, an "oligopoly" ("Do You Trust Google?") that already functions as despotically as a utility company? What does it mean that our universities, presses, and libraries are turning over their content to Google and not necessarily with a business plan that will profit any of the participants except Google? Whether we like it or not, Google now has access to much of our personal information. Managing payroll, medical, and customer accounts of corporations and municipalities is one of the fastest-growing web applications of the moment. What will it mean as those applications are increasingly centralized and ripe for next-generation data mining and management? "Search engine" hardly defines what Google makes, controls, censors, does, or has the potential to do. "Information" does not adequately alert us to its potential control over all the material, intellectual, cultural, and social arrangements of our life. Google Earth, indeed.

At the time of this writing, the U.S. corporate giant Cisco is supplying routers to China that allow government censors to restrict what citizens can find on the Internet and how they can communicate with one another. Google is cooperating with that venture in censorship, creating granular settings that allow the government to select what search engines deliver. And Yahoo has admitted turning over information about a dissident Chinese journalist's e-mail accounts to the Chinese government. Of course, similar processes are at work in the United States. One need not be either a Luddite or an alarmist to assert that technology (and its enabling economic and political preconditions) is contributing to state monopoly capitalism on a scale unprecedented in human history.

Conclusion

I began by asserting that, like any great age of science and technology, the twenty-first century is a great age also of humanism. However, we live in an oddly contradictory

time, when many humanists feel they do not count. Discoveries in the computational, natural, and biological sciences evoke the deepest issues about what it means to be human, but in the academy the humanities no longer occupy the central place where those issues might be productively explored. Public policy has increasingly become an alternative to humanistic inquiry rather than a subset or extension of it. This situation must change—not just for the sake of the humanities but for the full realization of the goals of the social and natural sciences as well.

Humanities 2.0 is a humanities of engagement that addresses our collective histories and concern for history. To be valued by one's time requires making oneself responsible and responsive to one's time. For academics, this engagement entails a willingness to reconsider the most cherished assumptions and structures of their discipline. It is not clear that humanists welcome the disciplinary self-scrutiny, self-evaluation, and reshaping that colleagues in the natural sciences (and, to a lesser extent, some of the social sciences) have gone through in the past two decades. Indeed, a real conversation, rather than a contest, across the humanities and sciences about the benefits and costs of disciplinary change could turn out to be enlightening for all of us and on many levels practical, professional, and intellectual. In a time of paradigm shifts, moral and political treachery, historical amnesia, and psychic and spiritual turmoil, humanistic issues are central—if only funding agencies, media interests, and we humanists ourselves will recognize the momentousness of this era for our discipline and take seriously the need for our intellectual centrality.

NOTES

1. To demonstrate the application of those abilities, participants in the 2006–2007 John Hope Franklin Humanities Institute Seminar Interface (Duke's contribution to the national HASTAC InFormation Year Project) developed visualization tools for complex humanistic data sets. A subset of the group, led by Rachael Brady, Harry Halpin, and Timothy Lenoir, designed a three-dimensional virtual reality data display that allows one to put up hundreds of patents and physically separate out strands to see, for example, social, intellectual, corporate, governmental, and scientific connections too complex to imagine without a visualization tool or in a two-dimensional graphical representation.

2. Others and I began using the term “Humanities 2.0” at a 2005 HASTAC gathering held shortly after O'Reilly coined the term “Web 2.0.” Cofounded by David Theo Goldberg and me, HASTAC (“haystack,” an acronym for the Humanities, Arts, Science and Technology Advanced Collaboratory) is a network of educators and digital visionaries who have worked together since 2003 both to codevelop creative new collaborative learning technologies and to think critically about the role of technology in life, learning, and society (www.hastac.org).

3. For a survey of humanities computing, see McCarty. A list of digital humanities centers and projects can be found at CenterNet (digitalhumanities.org/centernet), an international network of digital humanities centers developed in response to the American

Council of Learned Societies report “Cyberinfrastructure for the Humanities and Social Sciences” (2006).

4. Recently, when Oxford University Press asked me to prepare an expanded edition of *Revolution and the Word* (2004), I briefly toyed with and then rejected the idea of updating content. Instead, I decided to write a monographic overview of the field, including a discussion of the impact of new technologies on the history of the book (41–45).

5. The *Mozilla Manifesto* is a fascinating collaborative document (combining elements of Hobbes, Locke, Hume, Smith, and Marx) that addresses individual and collective relationships in an open-source network.

6. What O'Reilly has called “harnessing collective intelligence” entails rules for credibility and sociability. Kathy Sierra, cofounder of the Head First book series for O'Reilly, reminds us that the “crowds” and “mobs” that Surowieki and Rheingold champion come with caveats and constraints.

7. For discussions of *Wikipedia*, see Davidson, “We Can't Ignore”; and Jenkins. For an especially thoughtful discussion of the pros and cons of *Wikipedia* (with a fine bibliography on the con side), see “Wikipedia: Policies and Guidelines.”

8. For a witty discussion of the cognitive prejudices against openness, see Boyle. James Boyle, with Lawrence Lessig and others, is one of the founders of Creative Commons and Science Commons. Although issues of intellectual property and fair use are outside the scope of this essay, it is not an exaggeration to say that all forms of humanistic scholarship are threatened by current copyright legislation.

9. In August 2006, the Internet activist and designer Virgil Griffith unveiled a tool called WikiScanner that revealed how the CIA, the FBI, Disney, Fox News, and other corporate and political interests were editing *Wikipedia* entries for purposes of propaganda and, in some cases, defamation of character. *Wikipedia* invited the use of WikiScanner and revised its own editing practices and community rules to curb the practices of those who would use the many-to-many tool to injure, obscure, or prevaricate. If only we had such community rules and the equivalent of WikiScanner for mainstream media.

10. Credibility and authority were also at issue in the nineteenth century when the Philological Society of London assembled volunteer readers to locate unregistered words and usages of words for the *Oxford English Dictionary* (*OED*). Deception was as much a problem then as it is now: one of the most trusted contributors to the *OED* turned out to be not a don but an inmate of a mental institution (Winchester).

11. This project is funded as part of the John D. and Catherine T. MacArthur Foundation's new initiative Digital Media and Learning (www.digitallearning.macfound.org).

12. At the time of this writing (April 2008), a research assistant, Zoe Marie Jones, continues to solicit contributions to “Models and Resources,” an extensive bibliography of exemplary learning institutions (www.hastac.org/node/1106). What forms the final monographic publication takes will depend on the future technologies that best promote interactivity, access, and collaboration.

13. For the purposes of this *PMLA* essay, I have concentrated on archives. Elsewhere I wrote about other technologies of relevance to the humanities, including a virtual reality

data-correlating installation conceived at Duke as well as virtual environment role-playing games and global positioning systems ("Data Mining"). Imagine, for example, if the slavery and freedom collaboratory I proposed came with GPS mapping and tracking devices.

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