

Information Technology and the Troubled Humanities

Jerome McGann
University of Virginia
jjm2f@virginia.edu

Abstract

Where will Information Technology Leave Humanities Education Five, Ten, Twenty. . . Years from Now. This essay addresses that question in the context of several current "crises" facing humanities scholarship and education. These crises have followed from the displacement of traditional philological work from the center of the literary and cultural studies' curriculum—in particular editorial theory and method, history of the language, and bibliographical studies. The coming of digital technology to the humanities has revealed the historical necessity of recovering these basic disciplinary skills.

KEYWORDS: Humanities computing, Theory of textuality, Scholarly publishing, Theory and method of interpretation, Research libraries.

1.

Let me begin with Henry Adams, whose urbane pessimism gets summarized in this late passage from his famous autobiography:

He saw his education complete, and was sorry he ever began it. As a matter of taste, he greatly preferred his eighteenth-century education when God was a father and nature a mother, and all was for the best in a scientific universe. He repudiated all share in the world as it was to be and yet he could not detect where his responsibility began or ended.

Henry Adams, *The Education of Henry Adams*,
Chapter 31 (1907).

An education ought to make one ready for life, but Adams' education has turned out a kind of black comedy. His humanistic training has

left him unprepared for the dynamo of the twentieth-century. So he joins the coming race as an observer, a scholar – what he calls an “historian”. But “all that the historian won was a vehement wish to escape”.

Today, as we pass through a similar historical moment, a moment even more wrenching for a humanist than Adams’ moment, *The Education* seems especially pertinent. We don’t want to guide our passage through this moment with tabloid reports like *The Gutenberg Elegies*, which supply us with a cartoon set of alternatives. Information technology comprises an axis of evil that Birkerts advises us to “refuse”. We can no more “refuse” this digital environment than we can “refuse” the empire my country, for better and for worse, has become. We may well feel “a violent wish to escape” both of these unfolding—and closely enfolded—histories, but we do better to recall that as we are characters in these events, we bear a responsibility toward them.

And there precisely we find Henry Adams waiting for us, caught between two worlds. Not between a dead world and a world powerless to be born, however, but between two living worlds, one relatively young, the other ancient. He neither abandons the one nor refuses the other. The positive revelation of his great book tells us that we all always inhabit such a condition. At certain historical moments, that universal experience seems especially clear, and certain figures come forward to render an honest accounting.

His book also tells a cautionary tale, which is the second gift it passes on to us. If the dynamo and the Virgin each have their humanities in Adams’ view, he represents himself as the Nowhere Man. Not that he takes no action, but that he restricts his action to honest reporting. As a consequence, both Virgin and dynamo emerge from his book as mysterious forces—in fact, as those “images” which so preoccupy and immobilize him throughout his book.

“Where Will Information Technology Leave Humanities Education Five/Ten/Twenty/. . .N Years from Now?” The question implicitly asks for something more than an honest report. Reading Adams helps me remember to be wary of making forecasts. But he also reminds me that I do have hopes, as well as a few convictions about how we should look at those futures we imagine lying ahead of us.

So let me begin with a conviction: that we have to carry out what Marxist scholars used to call “the praxis of theory”—or as the poet better said, we must learn by going where we have to go. Involved here are two hard sayings that can no longer be fudged or tabled. First, integrating digi-

tal technology into our scholarship will have to be pursued on as broad a scale as possible. Circumstances are such that this work can no longer be safely postponed. Second, we have to restore textual and bibliographical work to the center of what we do.

“What are you saying? Learn UNIX, hypermedia design, one or more programming languages, or textual markup and its discontents? Learn bibliography and the sociology of texts, ancient and modern textual theory, history of the book?” Yes, that is exactly what I am saying.” And of course you ask why. At this point I give only one reason, though by itself—if we draw out its implications—the reason will more than suffice: because information technology is even now transforming the fundamental character of the library. The library, the chief locus of our cultural memory as well as our central symbol of that memory’s life and importance. That transformation is already altering the geography of scholarship, criticism, and educational method throughout the humanities and it forecasts even more dramatic changes ahead, as I shall indicate later. Moreover, the shifting plates are already registering on the seismographs.

Let’s begin at that point, with the signals coming from current, well-known events. First of all, some happy signs of the times. Already the library’s reference rooms are well along to virtually complete virtualization, and it’s difficult to believe any scholar regrets this. The transformation reflects the relative ease with which expository and informational materials translate into digital forms. To have immediately available to you those resources, wherever you might choose to set up your computer and go online, is a clear gain, and for older persons, an amazement. Such things can turn the soberest scholar into a digital groupie. Young persons tend to take such marvels for granted.

And it’s also the case that some remarkable scholars have been acute to see the educational opportunities that information technology makes possible for the humanities. The list is distinguished and extensive. But of course it’s also the case that, compared with the distinguished and extensive body of paper-based scholarship, this list of IT projects is miniscule.

Now for some tales from the dark side.

Late in the 19th century Matthew Arnold looked to France as a model for a salutary “Influence of Academies” on culture in general. 25 years ago Arnold’s academic inheritors appeared to be living the realization of his hope. But then came the crash. Humanities scholarship and education has been a holy mess for some time. Looking at the way we

live now in the academy, one can hardly not recall Trollope's dark portrayal of *The Way We Live Now*. What's going on? Where are the snows of yesteryear?

Something like those very questions drove the editor of *Critical Inquiry*, W. J. T. Mitchell, to summon the journal's board of editors to a symposium in April 2003 "to discuss the future of the journal and of the interdisciplinary fields of criticism and theory" (324). Some of the most distinguished North American academics gathered in Chicago to assess the bad eminence that higher education in the humanities has gained—specifically, to ponder "The Future of Criticism" and in particular of Critical Theory. I missed the Friday night public forum and pep-rally for the symposium but made it for the key event, the day-long Saturday discussions. From these I went home shocked and more than a little dismayed by what I learned.

Most of us registered, one way or another, the malaise that has grown widespread in the humanities in America, and I wasn't particularly disheartened that we were all uncertain about how best to deal with the problems we talked about. Something else was troubling, however: the degree of ignorance about information technology and its critical relevance to humanities education and scholarship. I've spent almost twenty years studying this subject in the only way you have a chance of doing something useful. That is, by hands-on collaborative interdisciplinary work. By designing and building the materials and applications tools that alone can teach how best to make and use these things. You don't learn a language by talking about it or reading books. You learn it by speaking it and writing it. There's no other way. Anything less is just, well, theoretical.

So far as information technology concerns traditional humanities, the issues are more clearly understood in the United Kingdom and Europe than they are in the United States. Moreover, if you want to engage serious, practical conversation about humanities education and digital culture, America's most famous humanities research institutions—with few exceptions—are not the places to go.

The CI meeting explained why. We're illiterate. Besides myself, no one on the CI board can use any of the languages we need to understand how to operate with our proliferating digital technologies—not even elementary markup languages. Most had never heard of TEI and no one I talked with was aware of the impact it was already exerting on humanities scholarship and education. The library, especially the research library,

is a cornerstone if not the very foundation of modern humanities. It is undergoing right now a complete digital transformation. In the coming decades—the process has already begun—the entirety of our cultural inheritance will be transformed and re-edited in digital forms. Do we understand what that means, what problems it brings, how they might be addressed? Theoretical as well as very practical discussions about these matters have been going on for years and decisions are taken every day. Yet digital illiteracy puts many of us on the margin of conversations and actions that affect the center of our cultural interests (as citizens) and our professional interests (as scholars and educators).

This situation has to change, and in the last part of this essay I will briefly describe a project called NINES that would if successful help the change along. The project is practical in four ways: it addresses some of the most basic needs and self-interests of the working humanities scholar; it focuses on a limited, controllable region of the humanities (nineteenth-century literary and cultural studies in Britain and America); it involves a collaboration between three key institutional entities (the research library, the individual scholar, and the professional organizations that help us to integrate and organize our work); and it has been designed for adaptation and scalability to other disciplinary areas.

What seems to me *impractical* is to continue framing the crisis in humanities scholarship and education in the theological terms of “critical theory” and “cultural studies”. The public glances at goings-on like the *Critical Inquiry* symposium with ironic amusement. To the reporters from New York and Boston who covered the symposium, it recalled nothing so much as Chaucer’s Parliament of Fowles, as we know from the stories they filed. And every year, as we also know, the MLA’s annual meeting provides the media with comic relief.

But our tight little island’s problems are by no means trivial, nor are they removed from the larger social scene. We have obligations as we are educators, obligations that society expects us to meet because of our special humanist vocation.

Remember that Marxian distinction between the base and the superstructure? Remember it. Our ideological conflicts today are deeply imbedded—commercially, economically, institutionally. Because this is the case, we have useful, practical things we can and should be *doing*. But before those doings become possible, we shall first have to stop the cant pervading so much of our discourse. An especially dismal aspect of our professional writing today is its ineffectual angelism, which is widespread.

This problem is not simply a matter of prose styles, or their failure. Our publications ride high on jargons of moral, social, and political engagement. In truth, these styles largely measure the extremity of our intramural focus and social *disengagement*. To be “transgressive” in a Routledge book or a *Critical Inquiry* essay—that word “transgressive” has grown legions—is simply dissipating. Jargons of impiety and critique—our current rhetorics of displacement—define the treason of the intellectuals, the signs of a transgression that has no referent, not even an intramural one. Writing for tenure committees and an overhearing professoriat, we mistake shop talk for scholarship and criticism. The worst of it, for the humanities scholar anyhow, is the abuse we inflict on the language we are missioned to preserve and protect.

To begin with such a practical self-criticism would make a real difference in the way we do our work. But humanities scholars face another set of problems and obligations—perhaps even more serious, certainly much less tractable. To expose them clearly let me revisit the way we live now from a slightly different perspective. Let us set our inner standing-point at the level of the base this time, not the superstructure.

Next to *Critical Inquiry*'s apprehensions about the state of Critical Theory we should reflect on Stephen Greenblatt's pragmatic worry about “The Crisis in Tenure and Publishing”. In a special letter to the members of the Modern Language Association in May 2002, Greenblatt—then MLA president—pointed to dire academic publishing conditions. He called the problem, correctly, a “systemic” one. A network of relations has bound together for a long time the work of scholarship, academic appointment, and paper-based—in particular, university press—publishing. This network has been breaking up, or down, for many years, and the pace of its unraveling only accelerates.

The problem is that most university presses are running at increasingly sharp deficits. This trend will not be reversed, as everyone inside the university publishing network knows. We produce larger and larger amounts of scholarship and pass it to a delivery system with diminishing capacities to sustain its publication. As an editor of a monograph series, the Virginia Victorian Studies, I have seen how this pressure alters what a university press is prepared to undertake. The notorious stigma that has grown up recently against “single-author studies” is only one sign of the difficulty. In a grotesque inversion of our most basic goals, near-term economics, not long-term scholarship, has become a serious factor shaping and guiding humanities research for some time. Just try to find a publisher

for primary documentary materials, or for any basic research that doesn't come labeled for immediate consumption: "Sell this by such and such a date"—before it spoils.

But that is to speak only of book publication. We should be aware that a parallel problem, every bit as acute, exists for periodical publication, where a similar dysfunction can be observed. In each of these cases the university library has become almost the only reliable purchaser of scholarly books and periodicals; and every year, as we know, library funds for such materials get cut further.

The problem has been revisited in the most recent issue of *Profession*, the "journal of opinion about and for the modern language profession". But while the four essays in this "Publishing and Tenure Crises Forum" describe the problem quite well, their hopes and proposals, I'm sorry to say, fail to address the "systemic"—the institutional and economic—issues. To imagine that funding infusions from ACLS, NEH, and Mellon will stem this tide is to imagine that sandbags will hold back a tsunami.

Understand, we're not talking here about "the death of the book". As we know, book publishing is alive and well and shows no signs of crisis. The problem is that scholarly communication operates in a highly restricted and specialized market. General publishing, by contrast, is open, with a diverse and dynamically changing audience to which publishers can both appeal and respond. The academic market is largely closed. We are the persons who, all but alone, produce and consume in this market. The academic market used to be somewhat more broadly distributed, but in the past 25 years it has drastically shrunk back upon itself. At the same time, the number of producers—of those who, by *systematic* and professional demand, are *required* to produce—has grown enormously. When we then add to the equation the drastic collapse in consumer demand in this market, we are not surprised at the telling numbers. In 1990 a university press would typically print 1000-1500 copies of an academic book. Today the number is 200-250 and dropping every year.

Many realize that online scholarly publication is the natural and inevitable response to this crisis of scholarly and educational communication. How to bring about the transition to online publication is the \$64,000 question. And it's not the technology that makes the problem so difficult, as the examples of online journal publication, JSTORE (<http://www.jstor.org/>) and Project Muse (<http://muse.jhu.edu/>), demonstrate. The Jordan will not be crossed until scholars and educators are prepared not simply

to search and access archived materials online—which is increasingly done—but to publish and to peer-review online—to carry out the major part of our productive educational work in digital forms.

The institutional resistance to such a major change in scholarly work behaviors is widespread, deep, and entirely understandable. It is not in the short-term (immediate) interest of scholars or their institutions to make a transition to digital work. The upfront costs are high, the learning curve is steep. Most telling of all, the design of the in-place paper-based system has the sophistication and clear strengths that come from hundreds of years of practical use. With rare exceptions, established scholars have the least practical involvement with information technology. This too is understandable. The known scholar can still, usually, get his or her work published in the usual paper-based ways precisely because they are known, if diminished, quantities.

The consequences of this situation are apparent. For traditional paper-based work, it is “the Crisis in Humanities”. For humanists who work with information technology, it is another form of that crisis. Digital scholarship—even the best of it—is all more or less atomized, growing like so many Topsyies. Worse, these creatures are idiosyncratically designed and so can’t easily talk to each other. They also typically get born into poverty—even the best-funded ones. Ensuring their maintenance, development, and survival is a daunting challenge. Worst of all, the work regularly passes without much practical institutional notice. The annual MLA bibliography still does not cite online works, no matter how distinguished. Accepted professional standards do not control the work in objective ways. Most of it comes into being without oversight or peer-review.

“What is to be done?” Lenin’s famous question is very much to the point here, for our scholarship is facing a future that is at once certain and uncertain. It is going to be cast and maintained and disseminated in digital forms. We may not now approve of this but it is nonetheless inevitable. We may not now know how to do this but we will learn. Because we have no choice.

2.

Before getting to the choice I want to talk about, I have to tell one more academic story. This tale stretches back a bit.

For as long as I’ve been an educator—since the mid-1960s—a

system of apartheid has been in place in literary and cultural studies. On one hand we have editing, bibliography, and archival work, on the other theory and interpretation. I don't have to tell you which of these two classes of work have been regarded as menial if somehow necessary. And like any system of apartheid, both groups were corrupted by it. As Don McKenzie once remarked, material culture is never more grossly perceived than it is by theoreticians, whose ideas tend to remove them from base contacts with the physical objects that code and comprise material culture. But of course, as he went on to remark, the gross theoretician met his match in the myopic scholar, who gets lost in the forest by trancing on the bark of the trees.

To this day at my own university—an institution known for its commitment to serious work in textual and bibliographical studies—most of our advanced graduate students could not talk sensibly, least of all seriously or interestingly, on problems of editing and textuality and why those problems are fundamental to every kind of critical work in literary and cultural studies. I no longer ask our students in their Ph.D. exams to talk about the editions they read and use, why they choose this one rather than another, what difference it would or might make. It goes without saying that these are bright and hard-working young people. Nonetheless, the institutional tradition they have inherited largely set those matters at the margin of attention, and never more unfortunately so than in the last quarter of the 20th century. Until that time the American research program in English studies regularly made history of the language, editing, and bibliographical studies a requirement of work. I know from my own, painful experience that these requirements were often taught in killingly mindless ways. Many therefore decided that these basic disciplines had little to teach us about literature, art, and culture—either of the past or the present. As we all know, in our country these requirements were universally dropped or eviscerated between about 1965 and 1990. (In England and Europe the situation is very different. Highly developed philological traditions permeate their scholarship.)

When I have described our recent educational history in these terms, I have been suspected of fellow-traveling with a cadre of moralizers and promoting an instrumentalist approach to education. But remember, William Bennett, Denish DeSousa, and Lynn Cheney are not enemies of theory or interpretation, they are simply strict constructionists in a field where Cornell West, Catherine Simpson, and Stanley Fish look for broader intellectual opportunities. Seeing the educational history of the past 15 or

20 years in terms of the celebrated struggles between these groups has obscured our view of an educational emergency now grown acute with the proliferation of digital technology.

I earlier said I shouldn't be forecasting events. But here I am prepared to make a prophecy.

In the next 50 years the entirety of our inherited archive of cultural works will have to be re-edited within a network of digital storage, access, and dissemination. This system, which is already under development, is transnational and transcultural.

Let's say this prophecy is true. Now ask yourself these questions: "Who is carrying out this work, who will do it, who should do it?" These turn to sobering queries when we reflect on the recent history of higher education in the United States. Just when we will be needing young people well-trained in the histories of textual transmission and the theory and practice of scholarly method and editing, our universities are seriously unprepared to educate such persons. Electronic scholarship and editing necessarily draw their primary models from long-standing philological practices in language study, textual scholarship, and bibliography. As we know, these three core disciplines preserve but a ghostly presence in most of our Ph.D. programs.

Designing and executing editorial and archival projects in digital forms are now taking place and will proliferate. Departments of literary study have perhaps the greatest stake in these momentous events, and yet they are—in this country—probably the least involved. The work is mostly being carried by librarians and systems engineers. Many, perhaps most, of these people are smart, hardworking, and literate. Their digital skills and scholarship are often outstanding. Few know anything about theory of texts, and they too, like we literary and cultural types, have labored for years in intellectually underfunded conditions. It has been decades since library schools in this country required or even offered courses in the history of the book. Does it shock you to learn that? We aren't shocked at our own instituted ignorance of history of the language or bibliography.

Restoring intimate relations between literarians and librarians, a pressing current need, has thus been hampered from institutional developments on both sides. Insofar as departments of literature participate in the work and conversations of digitized librarians, it happens through that small band of angels who continue to pursue serious editorial and bibliographical work: scholarly editors and bibliographers.

Ok, then, what's the problem? Our traditional departments have

managed to keep around a few old-fashioned editorial and bibliographical types. Let's send them out to help with the technical jobs and hope that their—(that's our)—brains aren't completely fried by beetle-browed and positivist habits. Once upon a time even they (that's we) were involved with the readerly text, right?

Those contacts might perhaps prove barely sufficient were it not for another recent upheaval in the world of higher education. For it happens that between about 1965 and 1985 textual scholars began to rethink some of the most basic ideas and methods of their discipline. I chose those dates because Ernest Honigman published *The Stability of Shakespeare's Text* in 1965, and in 1985 D. F. McKenzie delivered his famous inaugural Panizzi Lectures, *Bibliography and the Sociology of Texts* (published 1986). So disconnected had the general scholarly community grown from its foundational subfield of textual and bibliographical studies, however, that this historic moment passed it by with little notice. The "genetic" and "social" editing theories and methods that emerged in those years signaled a major shift in literary and cultural scholarship. Because this change overlapped with the more public emergence of what would be called Literary Theory—perhaps "underlapped" is the better word—it drew scant attention to itself in that more visible orbit of literary and cultural studies. And after that came the dismal "Culture Wars".

A forthcoming publication measures the change that overtook textual scholarship at the end of the last century. In 1982 Harold Jenkins published his celebrated edition of *Hamlet* in the Arden Shakespeare series. A lifetime's work, the book epitomized a traditional so-called eclectic approach whereby Jenkins educed a single text of the play out of a careful study of the three chief documentary witnesses. Soon a new Arden Shakespeare *Hamlet*, edited by Ann Thompson and Neil Taylor, will replace Jenkins' remarkable work. The new Arden *Hamlet* will not publish a single conflated text, it will present all three witnesses—F1 (1623), Q1 (1603), and Q2 (1604-5)—each in their special integrity (or lack thereof).

In May 2002 *The New Yorker* reported this event in a substantial piece by Ron Rosenbaum. The article gives a good general introduction to an upheaval in textual studies that had been going on for almost 40 years, and that had been at white heat for 20. Because the world of scholarship moves in a kind of slow motion, such belated awareness would not normally be cause for much notice. But at this particular historical moment, when information storage and transmission and methods of knowledge representation are calling for immediate practical attention, Rosenbaum's

piece seems most interesting for what it does *not* talk about. Force of circumstance today calls us to develop scholarly editions in digital forms. The people who used to do this work in paper forms—people like Jenkins and Thompson—are involved in serious controversies over how it should be done. The theory and practice of traditional textual scholarship is in a lively, not to say volatile, state of self-reflection. Scholarly editing today cannot be undertaken in *any* medium without a disciplined engagement with editorial theory and method. Scholars who think to use information technology resources, as now we must, therefore face a double difficulty. We must learn to use digital tools whose capacities are still being explored in fundamental ways even by technicians. We must also approach all the traditional questions of scholarly editing as if a transformed world stood all before us, and where to choose was fraught with uncertainty.

3.

That, ladies and gentlemen, is the context which envelops my main subject, NINES (or 9S: Networked Infrastructure for Nineteenth-century Electronic Scholarship). It is a three-year undertaking initiated in 2003 by myself and a group of scholars to establish an online environment for publishing peer-reviewed research in nineteenth-century British and American studies. Although the resource will have significant pedagogical and classroom components, it is primarily an institutional mechanism for digitally-organized research and scholarship.

NINES is conceived partly as a professional facilitator and partly as an advocacy group to protect the interests of scholars and educators. It is, as they say, results-oriented. It will liaison with interested publishing venues on behalf and in the interests of scholars and educators and the work we produce. A coordinated group of editorial boards oversees the work, which will include various kinds of content: traditional texts and documents—editions, critical works of all kinds—as well as “born-digital” studies that relate to all aspects of nineteenth-century culture. NINES is a model and working example for scholarship that takes advantage of digital resources and internet transmission. It provides scholars with access to a uniformly coded textual environment and a suite of computerized analytic and interpretive tools. A key goal of NINES is to expose the rich hermeneutic potential of the electronic medium—beyond the dazzle of digital imaging and the early breakthrough of hypertext.

Most important, NINES is not just a committee of concerned edu-

cators who mean to discuss the problems and opportunities presented by digital technology. NINES is a practical undertaking and it is already underway. Here is its three year initial plan:

To establish the editorial mechanisms for soliciting, peer-reviewing, aggregating, and finally publishing born-digital scholarship and criticism in nineteenth-century British and American studies. The effort necessarily involves re-examining how traditional scholarly standards and best practices can be migrated and adapted to a digital environment.

To begin modeling a technical and institutional framework that integrates our inherited archive of paper-based materials—primary as well as secondary—with emerging forms of digital scholarship and criticism.

To develop a suite of user-friendly procedures and easily-accessible tools and applications that will help scholars and students produce interesting work in digital form. Digital technology offers remarkable new possibilities for studying, analyzing, and interpreting our cultural inheritance in ways—both individual and collaborative—that have not been possible previously.

To run a series of summer fellowships for scholars who are working on IT projects in nineteenth-century studies. The first workshop of twelve scholars ran for a week in the summer of 2005 at University of Virginia. Organized within a robust technical and scholarly environment, the workshop was designed to help the participants develop and explore their projects in the company of other scholars doing similar projects.

That is the general administrative design model of NINES. Under its auspices we are developing software conceived specifically for scholars and educators working in the humanities, and in particular in literary and cultural studies. Creating such applications is one of the most pressing needs we now have. Unless IT can provide humanists with tools and methods that overgo what we already have with book technology, why would we take any interest in it (IT)?

(These tools use the special capacities of computerized systems to augment the traditional interpretive activities of the humanist scholar.)

1. A text comparison tool called JUXTA for comparing and collating textual similarities and differences in a given set of equivalent documents. Since the critical re-editing of our inherited corpus will necessarily occupy a central focus of coming humanities scholarship, a tool of this kind is fundamental. Aside from

Peter Robinson's COLLATE, no such tool exists, and COLLATE has not been widely used because it has significant limitations. JUXTA is entirely cross-platform and will be able to execute three basic collation and text-comparison operations: (a) collation by line or work string of poetical works (with the collation able to choose any witness as the basic reference point); (b) collation of prose documents by word string (of different sizes); (c) mining a dataset to locate and output equivalent word strings, with the output organized through a computerized analysis by degree of semantic, syntactic, or phonetic equivalence.

2. An online collaborative playspace called IVANHOE for organizing interpretive investigations of traditional humanities materials of any kind. Applicable for either classroom or research use, IVANHOE's design has a double (dialectical) function: to promote the critical investigation of textual and graphical works, and to expose those investigations themselves to critical reflection and study. IVANHOE 1.0 was released this past December and is currently being used in four classes, graduate and undergraduate, at University of Virginia.
3. COLLEX. In collaboration with a project to redesign *The Rossetti Archive*, NINES is developing a data model and set of tools called COLLEX that allows users of digital resources to assemble and share virtual "collections" and to present annotated "exhibits" and re-arrangements of online materials. These critical rearrangements can of course bring together materials that are variously diverse—materially, formally, historically. COLLEX is an interface for exploring complex bodies of diverse cultural materials in order to expose new networks of relations.
4. The 'Patacritical Demon. This is a tool for tracking and visualizing acts of critical reflection and interpre-

tation as they are being applied in real-time to specific works, and in particular to imaginative works like poems or stories. It is a device for addressing the following problem: How does one formalize “exceptional” and highly subjective activities like acts of interpretation and at the same time preserve their subjective status. The Demon derives its name, incidentally, from Alfred Jarry’s proposal for a science that he called ‘Pataphysics, that is, “a science of exceptions” (or “the science of imaginary solutions”).¹

Like IVANHOE and JUXTA, The ‘Patacritical Demon outputs XML coded data. Consequently, the work done with all three of these interpretive tools can be integrated with the rest of the NINES-environment materials.

Oh yes, one other thing. Whatever happens with NINES—whether that institutional event takes hold or not—these critical tools will be built. They will also be freely distributed to anyone who wants them.

Conclusion

I’m a book scholar, about as traditional as you get. My work, including my theoretical work, is historicist and even philological and my orientation is decidedly humanist. “Glory to man in the highest, for man is the master of things.” That witty and impish line from Swinburne is very much to my taste. Men (and women) are indeed called to the mastery of things. Of things precisely. Of people and of life events we are and always will be participants and students, never masters. Drawing that distinction—between things and people, between mastery and learning— is what it means to be—as Swinburne was—a humanist.

Today we have to try to master some new *things*. We have to learn how to make them and how to use them. To pursue that goal commits us to a demanding, and therefore humbling, adventure in knowledge. We will do this by becoming students again—a role that, as educators and humanists, I think we’re especially good at. For some of us, this will be a road not taken. Fair enough. But whether we choose to or not, we should all be clear about the slow train that’s coming and that won’t be sidetracked. “The Publishing and Tenure Crisis” is one certain sign of what’s happening. So is the digital transformation of our research archives, the seat of

our cultural memory.

NINES is a proposal to engage with these problems in specific and practical ways. It takes a relatively short rather than a long view—because in matters that concern us, we are always humanists, even in the short run. We know that our longest views, our totalizing conceptions, are finally only heuristic and hypothetical. But that humanist understanding is exactly why, as Shelley observed, we mustn't "let I dare not wait upon I would". We have to get going now, we can't wait to see if there's more to learn. Of course there's more to learn, that's why we must fare forth. How else will we learn what we need to know. We have to set the stage for our certain failures if we're to have any chance of measuring our measured successes. We will, as the poet observed, "learn by going where we have to go".

One last point is worth our reflection. Capitalist entrepreneurs are already actively trying to gain control over as much information as they can. Perhaps never before has knowledge been so clearly perceived as a fungible thing, as a commodity to be bought and sold. Humanities scholarship has a calculable market price, and the market will work to buy low and sell high, as the dreadful examples of Elsevier and Kluwer have recently revealed to the science community.²

And don't imagine that our cultural heritage—what Shelley called our poetry—is safe from commercial exploitation by agents that view our work—what they call "the content" we create—as a marketable commodity. Perhaps the chief virtue of a project like NINES is to supply scholars with an institutional mechanism for preserving and protecting what we do.

I don't know if we will be successful in our primary objective: leveraging NINES to assemble and publish an initial body of peer-reviewed online scholarship and criticism that can initiate an ongoing venue for such work. Several models are imaginable that would use libraries or traditional scholarly presses as the publishing vehicles, or some combination of the two. Whether or not the agents needed to make any of these models work will decide to do so is unclear. The agents—that's to say, ourselves. The matter won't become clear, one way or the other, until we undertake to design and implement a model. NINES—or anything like it—can only exist in practice, not in theory.

Notes

¹ See Jarry's *Exploits and Opinions of Dr. Faustroll, Pataphysician*, trans. and annotated by Simon Watson Taylor, Introduction by Roger Shattuck (Exact Change: Boston, 1996), especially Book II.

² The charges levied by this pair of traditional publishers of scientific journals grew so outrageous that a serious reaction has set in, and scientists are now developing their own online publishing venues: see Biomed Central, the Public Library of Science, and HighWire. NINES has taken some of its inspiration from these ventures. But scientists and humanists have very different requirements with respect to the inherited cultural archive. The preservation and transmission of that archive—ideally, the entirety of that archive—is perhaps the central mission of the humanist. The case is far different for the scientist qua scientist.

Works Cited

- Sven Birkerts, *The Gutenberg Elegies. The Fate of Reading in an Electronic Age*. (Faber and Faber: London, 1994).
- Johanna Drucker and Geoffrey Rockwell, eds., *Text Technology* (Special Issue devoted to the IVANHOE gamespace) 12.2 (2003).
- Stephen Greenblatt, "A Letter to MLA Members", reprinted in *The Chronicle of Higher Education* (2 July 2002): <<http://chronicle.com/jobs/2002/07/2002070202c.htm>>
- Jerome McGann, ed., *The Complete Writings and Pictures of Dante Gabriel Rossetti. A Hypermedia Research Archive* <<http://www.iath.virginia.edu/rossetti/>>
- W. J. T. Mitchell, ed., "The Future of Criticism—A Critical Inquiry Symposium," *Critical Inquiry* 30.2 (winter 2004): 324-479.
- NINES (Networked Infrastructure for Nineteenth-century Electronic Scholarship (<http://nines.org>))
- Profession* 2004. "Publishing and Tenure Crises Forum" (MLA: New York, 2004)
- E. P. Thompson, *The Poverty of Theory*. Monthly Review Press: New York, 1978.
- John Unsworth, "The Crisis in Scholarly Publishing in the Humanities," *ARL* NO. 228 (June 2003): 1-4 <<http://www.arl.org/newsltr/228/crisis.html>>.

