

“On Synthetic Technologies: the Book, the University, the Internet”

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Introduction

Among the many delights of British Columbia is being surrounded by the striking art of the indigenous peoples of the Northwest coast. You’ll see prominently in that art stylized depictions of the raven, one of the chief symbols of spirituality of the first inhabitants of this coast—including the Salish Kawakiutl, Bella Coola and Tlingit—and the protagonist of the creation story of the Haida people of Queen Charlotte Islands. Overturning a clam shell on a deserted beach, the story goes, the raven finds tiny people hiding within. “Come out, come out,” he cries, and they do. Seeking only playmates, he creates thereby the human population of the archipelago.

The cosmology of the Northwest coastal peoples involves much shape-shifting, reinvention, and ironic trickery: transformations that confirm the certainty of mystery. The raven, in particular, is the great trickster, often fooling other creatures into actions that serve his ends. The boundaries between the spirit world and the natural world, between human and animal, are infinitely permeable. Not surprisingly, most nineteenth-century government officials found this belief system incompatible with their notions of progress and modern life and hoped that missionary schools could set things right by teaching the linear progress of modernity and the fixity of identities.

However unnerving, this cosmology may yet serve us well today. We like certainties and continuities. Those of us in this room who love books and universities take comfort from their historic durability, however idealized. We tend to think of them as authentic forms, even as we know that they must be produced and that some of those productions do perhaps fall short of our ideals. Books and universities have been elements of western and now world cultural life for hundreds of years; it is not unreasonable to expect that they will persist as active, living forms for centuries more.

But will university presses? I am sure you’ll agree that there’s less certainty here. Peter Givler’s very useful condensed history of the American university press, published in 2002 and reproduced on the AAUP website at <http://aaupnet.org/resources/upusa.html>, clearly outlines the perils of its position at the confluence of the commercial marketplace of publishing and the internal economy of universities and higher education. Changes in federal funding for higher education, university financial practices, foundation priorities, and the cost structures of service industries have all left their imprint on the well-being of presses, individually and collectively. And the latest challenge, of course, is that of digital technology. The opportunities presented by the internet for reaching new customers with new materials

seem at least equaled by the economic, technological and organizational challenges of grasping them. This is an understandably difficult situation for enterprises that do not have a large margin for error.

Whatever illusions any of us might harbor about the internet and digital technologies, I doubt they include the same notions of historical continuity with which we cushion the workaday realities of working with books and within universities. Even if we now live in the period “A.D.” or “After Digitization,” we can all remember the era (to mix systems) “B.C.E.”—“Before Communication Electrified.” But perhaps because we have witnessed its creation, we tend to draw a mental contrast between the artificiality of the internet and the authenticity of the book. I think such attitudes will not help us at this point; indeed, we lose much if we do not respect artificiality.

You may have heard the story that when the architect Christopher Wren first showed Queen Anne the rebuilt St. Paul’s Cathedral, Her Majesty’s comment was that “It is awful and artificial.” This was in fact a compliment: the soaring interior filled her with great awe, and she recognized that it was indeed a product of great artifice.

The book, the university, and the internet are all works of great artifice. They are synthetic, and in at least two senses. First, they are not natural, but rather manufactured, deliberately created in historically contingent circumstances. Second, they are syntheses, that is, re-combinations of previously existing elements to create a new form. The university press was synthesized to help the university distribute knowledge, most notably in the form of books. To anticipate my conclusion, I believe that fulfilling that mission will require further syntheses, the development of innovative digital materials of high quality, already underway at many of your presses. I say this recognizing that active participation in the digital domain will require new forms of work, new alliances among presses, and new institutional partners. That is one of many reasons why it is so important that the Association of Research Libraries (ARL) has joined with AAUP to mark “the year of the university press.” One hopes that this partnership between the university’s two principal custodians of recorded scholarship can be extended into the realm of digital production, as is happening on many campuses already.

Who else should join this coalition of the willing? It won’t surprise you to hear that I don’t think that we can develop a recombinant structure of scholarly communication without the active participation of learned societies. The ACLS History E-Book project is one attempt to bring together learned societies and university presses in a configuration that provides to libraries a digital collection reflecting both scholarly judgment and the practiced artifice of university presses. It is one of the pleasures of my position to meet with the leadership of learned societies—their boards, directors, and councils—to discuss issues of concern to them, to the ACLS, and to the humanities. Questions about scholarly communication, including digitization, have been a recurring topic in those conversations. Some—indeed, many—of the individuals elected to lead their societies still regard electronic scholarship with wariness and distaste. But of course, as George Landow and others

have pointed out, “printed books are technology, too,” and pencils, paper or typewriters, for that matter, no more “natural” than a computer.¹

Thinking about digitization as one of a series of synthetic technologies—a series that included the trusted book and the familiar university—has proven a helpful approach to lessening that aversion by providing a framework that distinguishes structure (the print book) from function (conveying information) so that we can imagine their reconfiguration.

For the rest of my time today, I want to share that perspective with you and to comment on what it suggests about opportunities for university presses.

The Book

The book is a phenomenon so thoroughly naturalized that we can miss the evidence of its constructedness, although many historians have done much to help us understand the elements and sequence of its construction and to interpret the early book in terms of today’s technologies.² It is the synthesis of several other technologies, writing, printing, and binding most obviously, and viewed as a piece of information technology, it displays many virtues. First, it is highly portable. Even though downloads onto PDAs may have given the lie to Annie Proulx’s prediction that “Nobody is going to sit down and read a novel on a twitchy little screen,”³ I think most of us would still agree that there’s still nothing like curling up in bed with a book, and it’s certainly an easier read in the glaring sun at the beach. We can take it anywhere, and I doubt that anyone has taken greater advantage of this feature than a certain tenth-century Grand Vizier of Persia, who, it seems, never left home without his collection of 117,000 volumes, carried by a caravan of 400 camels trained to walk in alphabetical order.⁴

Second, its preservation is relatively simple, although Adrian Johns points out that the fixity and standardization that we associate with the book were not intrinsic to print but emerged rather as a result of a protracted and often tortuous historical process.⁵ Third, as a reproducible product the printed book was accessible to a much larger reading public, though access was initially perceived to be a double-edged sword. It is worth remembering that the literate elite found printing to be a disruptive technology. Printers were not as discriminating or careful as scribes. The relative ease of print, as opposed to script, lowered barriers to the dissemination of information,

¹George Landow, “Twenty Minutes into the Future, or Are We Moving Beyond the Book?” in Geoffrey Nunberg, ed., *The Future of the Book* (Berkeley and Los Angeles: University of California Press, 1996), 214-215.

²Examples include Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: University of Chicago Press, 1998), Anthony Grafton, *The Footnote: A Curious History* (Cambridge: Harvard University Press, 1997), Neil Rhodes and Jonathan Sawday, eds., *The Renaissance Computer: Knowledge Technology in the First Age of Print* (New York: Routledge, 2000), and Geoffrey Nunberg, ed., *The Future of the Book* (Berkeley and Los Angeles: University of California Press, 1996).

³*The New York Times*, 5/26/94, A13, cited (from Edupage) by James J. O’Donnell, “The Pragmatics of the New: Trithemius, McLuhan, Cassiodorus,” in Geoffrey Nunberg, ed., *The Future of the Book*, 37.

⁴Alberto Manguel, *A History of Reading* (New York: Viking, 1996), 193.

⁵Adrian Johns, *The Nature of the Book* (1998), 19.

and—many thought—lowered the quality of that information as well. Early modern readers had in fact good reasons to question the veracity and reliability of printed matter, in light of widespread piracy, plagiarism, and unauthorized or simply careless reprintings. Indeed, “The first book reputed to have been printed without any errors appeared only in 1760.”⁶ And finally, the book has spawned important practices and customs—the equivalent of digital protocols—of authorship, pagination, organization and presentation that we now take for granted but that should be recognized for the historically contingent conventions they are. (“It took [one] hundred years after the appearance of the printed book to invent the title page.”)⁷ The book requires care, but, once preserved, its future accessibility is independent of other technologies. And there’s a sense in which its preservation *depends* on its accessibility: as George Landow observes, “The person who would preserve information in a manuscript age does so by preventing readers from having access to the text, since such readers inevitably lead to its destruction. In an age of printing, the person who would preserve a text does so, in contrast, by disseminating it as widely as possible.”⁸

The book “as a machine of knowledge,” writes Jerome McGann, comprises “a set of scientific engines—specific kinds of books and discursive genres—of great power and complexity.” One of the founders of the Institute for Advanced Technology in the Humanities at the University of Virginia, McGann has been a true pioneer in digital literary studies. To the book however, he still grants primacy of place. “Major changes in the forms of knowledge and information are taking place,” he observes. “From a literary person’s point of view, however, the relevance of these changes can appear to be purely marginal: for whatever happens in the future, whatever new electronic poetry or fiction gets produced, the literature we inherit (to this date) is and will always be bookish.”⁹

It should not be surprising, therefore, that the book figures so prominently as an iconic element of university and college seals and emblems (and—if you look closely—of the logo of the ACLS as well). Its deep imbrication in the mission of higher learning goes back to the first medieval universities, which witnessed a shift from a monastic model of writing as preservation and memory, largely dissociated from reading, to a scholastic model “which made the book both the object and the instrument of intellectual labour,”¹⁰ silently and selectively read. It was the university that turned reading into a scholarly exercise, with the fundamental link between reading and teaching having been articulated in the first treatise on the art of reading, Hugh of St. Victor’s twelfth-century *Didascalicon*.¹¹ From the synthesis of the university with the book, then, comes scholarship. As Jacqueline Hamesse tells us, the emphasis on the role of reading in a school curriculum, with knowledge—rather than wisdom—as the end, created new needs. Books had to be organized internally so that readers could find the things they needed to use easily: texts were subdivided;

⁶Johns, 31.

⁷Landow, 230.

⁸Landow, 217.

⁹Jerome McGann, “The Rationale of Hypertext,”
<http://www.iath.virginia.edu/public/jjm2f/rationale.html>

¹⁰Guglielmo Cavallo and Roger Chartier, eds., *A History of Reading in the West* (Amherst, MA: University of Massachusetts Press, 1999), “Introduction,” 24.

¹¹Jacqueline Hamesse, “The Scholastic Model of Reading,” in Cavallo and Chartier, 102.

paragraphs marked; chapters titled; concordances and indices created; and tables of contents provided. And they had to be organized—catalogued—externally as well, often along the disciplinary lines of curricula like that of Hugh of St. Victor.¹² In much of the humanities since then the book has become the subject, object and product of university scholarship, and, now, of course, the often problematic gold standard for advancement within the university's ranks.

The university

With the exception of the church, the university is the oldest continuing institution in the West. In an address written for a European audience, Gerhard Casper, then President of Stanford University, analyzed the enduring and defining characteristics of the university, its technical specifications, so to speak.¹³ Casper's reference for much of his analysis is Alexander von Humboldt, who, with the King of Prussia, founded the University of Berlin in order to strengthen Prussian and German culture in the wake of military defeat by Napoleon. The ancient form of the university was reshaped at a particular moment for a contemporary purpose. According to Casper, the university is characterized by seven qualities:

- First, and most critically, a linkage of teaching and research.
- Second, academic freedom, what Casper calls “the sine qua non” of the university.
- Third, freedom from distraction, the ability to remain aloof from extraneous goals or obligations. Casper concedes that this characteristic is perhaps more honored in the breach than in the observance: “Small wonder,” he worries, “that the university has become a highly unfocussed institution.”
- Fourth, dynamic multidisciplinary, or, in von Humboldt's words: “the inner life of these higher intellectual institutions must be such as to call forth and sustain a continuously self-renewing, wholly uncoerced and disinterested collaboration.”
- Fifth, social utility, though “the university's main method of furthering the public welfare is through the increase of knowledge.”
- Sixth, self-governance.
- Seventh, the university is a place, a geographic space, although, as I will note later, the rise of the internet may call this quality into question.

That the qualities Casper enumerated describe the American university is not surprising, since our system of higher education is a synthesis of German and English models. That the US system is now, in spite of all its manifest defects, the reigning ideal in higher education is also, I think, owing in part to a further synthesis of distinctively American elements, especially its wide, “democratic” accessibility, thanks to the Morrill Act of 1862, which established land-grant institutions (though this is a quality under very real strain today) and its internal market mechanism wherein universities compete for students, faculty, grants, and prestige.

¹²Hamesse, 193.

¹³Gerhard Casper, “The Future of Universities as Institutions,” address at the Central European University Budapest, n.d., available at <http://www.ceu.hu/anniversary/casper.pdf>.

But the retrospective logic of these developments should not blind us to the contingency of their development or to the paths not taken or forsaken. The GI Bill is the most conspicuous example of critical contingencies. As the Serviceman's Readjustment Act of 1944, it was arguably one of the single most important interventions in the development of the American university system. The \$7 billion expended then—almost \$50 billion in today's dollars—was a public investment (a “subsidy,” if you will) that transformed higher education from an elite system to one of mass access. Many GI beneficiaries were the first in their family to attend college, and would not have considered tertiary education without the offer of federal support. The GI bill transformed a northeastern system into a national system. Since eligible veterans could spend their benefits wherever they chose, formerly provincial institutions such as the University of California found themselves inundated with tuition-paying former GIs who had disembarked for the Pacific war from California and decided to make it their peacetime home. Followed by the Baby Boom, the GI Bill helped establish the research university, which could educate large numbers of students and receive funds from the new federal sponsorship of scientific research, as *the* ideal type of institution providing higher education.

The GI Bill, then, could easily be cited as a dramatically effective exercise in American educational policy—if not for the fact that its educational effects were completely unanticipated and unplanned for. The bill was conceived of not as an educational measure, but to combat the postwar unemployment that all policy-makers confidently expected, since it had followed World War I. The unanticipated consequences of these policy choices were almost wholly positive, in large part because the colleges and universities proved sufficiently nimble in responding to the new opportunity.

But there were paths not taken in this history. Thomas Bender has reconstructed for us the meanings and modes of a 19th century urban university that had a closer integration between scholarship and civic intellectual life than does today's research university. Confronted by an ever more complex and disordered urban environment, Bender notes, “Emergent professionals wanted to distinguish themselves from the swirl of amateurs, popularizers, and charlatans associated with urban culture—and for valid intellectual as well as selfish personal reasons.” Self-consciously professionalized scholarship was a logical response: “In the disciplinary community, genuine intellectual accomplishment would find protection from the competing and often superficial demands of a heterogeneous public.” But something was lost as well as gained, for, as Bender writes, “in this largely successful quest for order, purity, and authority, intellectuals severed intellectual life from . . . the public culture the city had nourished.”¹⁴

I mention this turn away from a more generalized cultural milieu and toward a more stylized and professionalized academy because it implied the necessity of specialized publications and, thereby, the university press. This is what we at this meeting are most specifically concerned with: a subspecies of the book, the nexus among universities and books, the university press, academic publishing and Banquo's

¹⁴ Thomas Bender, *Intellect and Public Life* (Baltimore: The Johns Hopkins University Press, 1993), 43-44.

ghost of scholarly communication: the monograph. I'm sure that when the subject of the monograph comes up many of you would wearily join with Macbeth to enjoin the specter "Don't shake your gory locks at me." (You might also agree with the digeratus historian Ed Ayers, who has urged the ACLS to go "mano a mano with the monograph.")

The development of the university press was coeval with the beginnings of the ideal-typical research university under the leadership of President Daniel Coit Gilman at Johns Hopkins University. What was Gilman's "mission-statement" for the new university press? "It is one of the noblest duties of a university to advance knowledge, and to diffuse it not merely among those who can attend the daily lectures – but far and wide." Note how this anticipates fairly precisely the goals of MIT's D-space: "To create and establish an electronic system that captures, preserves and communicates the intellectual output of MIT's faculty and researchers."¹⁵

But we must also note that the structured knowledge of the university was not necessarily intended, in its component parts, to be page-turning. The first editor of the *American Historical Review*, J. Franklin Jameson, made clear that the journal did not seek, in the first place, "to evoke originality or kindle the fires of genius", but rather "to regularize, to criticize, to restrain vagaries, to set a standard of workmanship and compel men to conform to it."¹⁶ Here, then, the paradox of scholarly publishing: worthy academic work—which is in the aggregate essential for advancing scholarship—may not, in its individual units, be very compelling to those outside the field in question (and sometimes, alas, not even to those within it).

The work of advancing scholarship in the aggregate through support of individual projects has also been the mission of ACLS since 1919. In fact, ACLS has partnered regularly with AAUP, with ARL, and with other organizations to take stock of the health of the university press enterprise. ACLS and these partners have issued several national reports on this subject, beginning in 1949. Most recently, Cathy Davidson, Lynne Withey and other colleagues spoke at our 2003 Annual Meeting on "The Futures of Scholarly Publishing," the proceedings of which are now *ACLS Occasional Paper No. 57* and a topic on the program of this convention as well.

Looking at earlier ACLS reports, I've been struck by the persistence of the issues defining the domain of university presses. Let me share with you several quotations from the 1949 report, authored by Chester Kerr and entitled simply *A Report on American University Presses*.¹⁷

That may have been a more whimsical era of interpress cooperation. "In 1928," Kerr writes, "thirteen presses pooled their interests to issue a joint catalogue describing sixty-five of their recent publications (California, Chicago, Clark, Columbia, Duke, Harvard, New York, North Carolina, Oxford, Pennsylvania,

¹⁵<http://libraries.mit.edu/dspace-mit/what/definition.html>.

¹⁶Morey D. Rothberg, "'To Set a Standard of Workmanship and Compel Men to Conform to It': John Franklin Jameson as Editor of the *American Historical Review*," *American Historical Review*, Vol. 89, No. 4 (October, 1984), 961.

¹⁷Kerr, Chester, *A Report on American University Presses* (The Association of American University Presses, 1949).

Princeton, Stanford, and Yale). This joint manifesto was handsomely printed at Princeton, bore the title *Shelfward Ho!*, and contained a hearty preface by Christopher Morely,” one of the founders of the *Saturday Review of Literature*.

The report solicited from press directors their descriptions of the role of the university press, which fall under several headings:

First, press directors described *the mission of university presses to publish what scholarship needs* in the following terms:

“To see that no meritorious scholarly work goes unpublished.”

“To make available in appropriate form the results of scholarly investigation.”

“To enable staff members of the university to publish works with complete freedom from dictation on the part of commercial publishers; to make possible the publication of learned works that commercial publishers would not accept; to make possible speedier publications; to have on hand the campus experts who can assist and guide editors; to facilitate through its own plant or its contacts, the handling of difficult composition in mathematics, languages, and the sciences.”

And finally, “To publish the results of scholarly research by 1) the publication of monographic material, which is essentially the making available of scholar’s laboratory notes to other scholars” (and we wonder why some scholarly monographs just don’t sell).

Second, press directors’ comments on *the mission of university presses to reach the public outside the university* were also very clear:

“To extend the University’s teaching and research beyond the classroom, the laboratory, and the professor’s study thus fulfilling the function of a university in a democracy—the widest possible dissemination of a tested knowledge.”

“To disseminate knowledge and present scholarship in terms understandable to, and interesting for, the educated lay reader.”

“To be socially useful in contributing to the advance and dissemination of knowledge; to contribute to the usefulness of the University itself as well as, incidentally, its prestige.”

Finally, the 1949 press directors were clear-eyed on *the need to pay the bills*, and the difficulty of doing so. The report quotes Norman V. Donaldson, the Managing Director of Yale University Press, as saying “By the very nature of the work which a university press is supposed to do, it cannot be expected to make money or even to meet its expenses without help.” “These words . . . would appear to be axiomatic,” wrote Chester Kerr “yet the question of whether, and if so, how, a press can be made self-supporting is often raised, usually by university authorities who regard the press’s resemblance to a ‘business’ as evidence that it ought at least to break even.

Another press director commented that “The test is not the extent to which the press is self-supporting. . . The test is whether the press is able, by careful management, to use subsidies in such a manner as to do more with them than would be accomplished if the subsidies were applied directly to limited interest books, no other complementary kind of publishing being undertaken.”

But Savoie Lottinville, Vice President of AAUP and Director of the University of Oklahoma Press declares quite simply: “No institution can expect its scholarly press to be completely self-supporting. A press may break even in good years, or occasionally make money, but if it does so consistently, it is not publishing the kind of scholarship to which its parent institution is presumably dedicated. I say this because scholarly books, while definitely merchantable, are not merchandise. Although the word ‘contribution’ is used loosely even by scholars, it remains that a university’s contribution to humanity is, at its best, immeasurably more important than the cash books are likely to show.”

In 2004, I know I don’t need to tell you that subsidies have fallen out of fashion. Foundations tend to see subsidies as palliation and not solutions. University administrators, fiscally hard pressed at every turn, shrink from categorical institutional support. The problem here is not unrelated to the overall situation of the humanities in the university, whose value and accomplishments are rarely reflected in budgetary allocations. Humanists write books and depend on the health of university presses, but just as difficult to extract as the press subsidies are the start-up funds and fellowship top-ups necessary to create the research time they need to produce those books. And yet both forms of support for the humanities, provided only grudgingly if at all, are but decimal dust to the staggering sums administrators quite happily pay for their scientists’ lab start-ups and research grant matching funds.

Not all administrators are unenlightened, however. Even though institutional subsidies are no longer in favor, Provost Peter Lange of Duke University has made an interesting proposal that might help support a range of university presses through commitments to untenured faculty. He suggests that the university “offer the partial subvention of a faculty member’s first book as part of his or her initial contract in the College of Arts and Science. The amount envisioned for the subsidy is \$5,000, which would be paid to *any* not-for-profit academic press that agrees to publish the monograph. Lange estimates that approximately 20 books per year would be subsidized if this were put into practice, at a cost of \$100,000 per year.” He hopes that ACLS or another national organization will help persuade other universities to adopt the same policies, thereby bringing to a significant sum the aggregate subsidy provided by research universities, as a group, to university presses.

I know that there a number of objections to the idea of subsidies as even a partial solution to the dilemmas of university press publishing. I’ve raised some of them myself, especially a concern for their likely unequal effects: will subsidies only make the rich scholars, or scholars from rich institutions, richer? Economists will point out that subsidizing supply is almost always inefficient; a better course would be to subsidize demand, in this case by increasing support for university libraries or scholars’ individual book-buying budgets. But while Provost Lange’s promising idea demands scrutiny—and I look forward to hearing your opinions of it—it does

transform the issue. The question changes from asking whether the University should subsidize its own press to asking how wealthy universities as a group can help the entire university press enterprise, thereby benefiting more than their own faculty. And it certainly underlines the commonality of interest between humanities scholars and university presses.

The financial maintenance of the university press print publishing is necessary for the health of the humanities. A distinct but equally important task for the humanities is to exploit to the fullest the potential of digital technologies for empowering new means of research, teaching and scholarly communication. This brings us to the third element of our trinity:

The internet

As I noted, the internet is “awful and artificial.” It is so dramatically and obviously engineered, that its very design features—being “distributed, decentralized, networked, non-hierarchical, team-worked”¹⁸—have themselves become tropes for organizational behavior. At the ACLS Annual Meeting last month, UCSB English professor Alan Liu gave a luminous exposition of the ways digital technology have become the “techne” and “poesis” of much of modern life. “IT,” he writes, “is not just functional in knowledge work; it is allegorical.” Its protocols “include all the host of standards, specifications, declarations, procedures, routines, and functions that now bind the workers of the so-called professional-technical-managerial ‘new class’ to the postindustrial program of efficiency-cum-flexibility.”¹⁹

Digital technologies are already transforming science—its research strategies, research topics, and scholarly organization. The 2003 “Atkins Report” to the National Science Foundation provides additional evidence that the sciences are reaching a qualitatively new stage in the deployment of digital technologies. Scientists no longer see them merely as tools enhancing established research methodologies, but as a force creating a new environment, or more precisely, environments, that can help create new knowledge.

The synthesis of digital technologies and the humanities is not as far advanced as in the sciences, but the importance of moving that synthesis forward is increasingly recognized. In their “Manifesto for the Humanities in a Technological Age,” Cathy Davidson and David Theo Goldberg put the case concisely:

The humanities have a central place in exploring the possibilities, the reach and implications, of digital technologies and cultures: how technology shapes what we think about the human and the humane. . . Humanistic thinking is ideally suited to creating next-generation, multimedia search engines that also order, sort and

¹⁸Alan Liu, “The Humanities: A Technical Profession,” (The Idea and Ideals of the University, Public Session, ACLS Annual Meeting, Washington, DC, May 8, 2004) forthcoming in an *ACLS Occasional Paper*.

¹⁹Liu

minimize information flow. Doing so is not a matter of hardware or software but of collective thinking and analysis.

We live in challenging times, and if we don't mind our manor (not to mention our manners), we will find our intellectual and pedagogical environments drastically changed without our more or less consciously shaping them.²⁰

To address this challenge, Davidson, Goldberg and other colleagues have founded the Humanities, Arts, Science, and Technology Advanced Collaboratory (HASTAC)—as “a consortium of humanists, artists, scientists, and engineers from the nation’s leading institutions dedicated to working together to develop innovative computing and information systems that support interdisciplinary research and teaching in the humanities and arts.”

HASTAC is intended, I take it, to be an ongoing activity. For its part, ACLS has begun a different, but congruent, time-bound effort to help re-frame, focus, and elevate discussions of the future of humanities computing.

With the support of the Andrew W. Mellon Foundation, ACLS has appointed a Commission on Cyberinfrastructure to create a corollary to the Atkins report to the National Science Foundation, focused on the humanities and related social sciences. The term “cyberinfrastructure” does not trip lightly off the tongue, but it does emphasize the constructedness, indeed, the current active construction of what can and should be a rich research environment for the Humanities.

Cyberinfrastructure is more than just hardware and software, more than bigger computer boxes and wider pipes and wires connecting them. It is analogous to the infrastructure scholarship enjoys, which consists of the libraries, archives, and museums that preserve information; the bibliographies, finding aids, citation systems, and concordances that make that information retrievable; the journals and university presses that distribute the information; and the editors, librarians, archivists, and curators who link the operation of this structure to the scholars who use it. All of these structures have both extensions and analogues in the digital realm. The infrastructure of scholarship was built over centuries with the active participation of scholars. Cyberinfrastructure will be built more quickly, and so it is especially important to have broad scholarly participation in its construction: after it is built, it will be much harder to shift, alter, or improve its foundations.

The ACLS Cyberinfrastructure Commission will seek to describe and analyze the current state of humanities and social science cyberinfrastructure, and to articulate the requirements and the potential contributions of the humanities and the social sciences in developing it further for the purposes of information, teaching, and research. Chaired by John Unsworth, Dean of the Library School and Professor of English at the University of Illinois, the ACLS commission has begun wide consultations through interviews and public hearings that will lead to a draft of a report in late 2004, which will be circulated for comments. A final report will be

²⁰Cathy N. Davidson and David Theo Goldberg, “A Manifesto for the Humanities in a Technological Age,” *The Chronicle of Higher Education*, February 12, 2004.

issued in early 2005. I encourage you to consult the ACLS website (www.acls.org - click on “cyberinfrastructure in the dynamic ribbon on the top of the home page) for more information and to share your own thoughts with John Unsworth and the Commission. You can write to John Unsworth at cyberchair@acls.org.

The initial discussions of the Commission have highlighted two drivers for digitization that will only gather force:

1. Digital technology enables the intrinsic logic of the design of professionalized scholarly production to be fulfilled. The monograph, annotated original sources, the footnote, the journal article, the review, are all best read in a mutual relation. Digital collections make that relationship immediate and dynamic.
2. The methods and objects of research will reside increasingly in the digital arena and their expression and exposition will be necessarily digital. These “born digital” materials are now few, but certain to increase.

As these drivers work through scholarship, we should expect that the humanities and related social sciences will achieve this synthesis with the digital domain, thereby transforming both. Whither then the university and the university press? Let us return to Gerhard Casper, who has speculated about this and writes:

The virtual university is beginning to attain a reality that is anything but speculative. . . . the amount of instruction offered on the World Wide Web is continually increasing. Any student in any country, as long as he or she can pay the fee (if one is charged), can matriculate at universities that offer ‘cyber instruction’ as well as traditional instruction on campus. Competition is evolving internationally into a stream that educational and testing monopolies will be scarcely able to stem.

The university will survive to the extent that it is irreplaceable. But what is it about the university that is irreplaceable? Probably only the link between teaching and research in the laboratory and the classroom. . . Information technology as such will, in part, reduce the cost of teaching, and even improve it. Paradoxically, however, I see no improvement in the overall costs incurred by the university—rather the opposite.²¹

Casper’s prediction that “The university will survive to the extent that it is irreplaceable” can also be applied to university presses. AAUP’s cogent statement on “The Value of University Presses” asserts that “University presses do things that wouldn’t otherwise get done.” It is worth noting that of the 24 points that in the aggregate make the case for the university press as an institution, only three explicitly state that “books” as such are involved.

²¹Casper, <http://www.ceu.hu/anniversary/casper.pdf>.

Let me then pose again a question I know you have been frequently asked: as the practices—the *techne* and *poesis*—of digitization grow within scholarship and the university, does it follow axiomatically that the university press must also move in that direction? Put that way, the answer may seem an obvious “yes,” but recall Jerry McGann’s observation that our culture will remain predominantly “bookish” for some time. University presses will no doubt as well. There is, after all, no reason to assume that what Geoffrey Nunberg refers to as the “conflicting fetishisms” of print and digital technologies require the total replacement of one by the other.²² As Alberto Manguel notes, in the century after Gutenberg manuscript culture boomed: “While books were becoming more easily available and more people were learning to read, more were also learning to write, often stylishly with great distinction, and the sixteenth century became not only the age of the printed word but also the century of the great manuals of handwriting. It is interesting to note how often a technological development—such as Gutenberg’s—promotes rather than eliminates that which it is supposed to supersede.”²³ As Nunberg reminds us, “the category of ‘the book’ is itself the result of a fortuitous concourse of institutions, genres, and technologies. The one thing that is certain is that the introduction of new technologies will be accompanied by a dispersion of the cultural and communicative functions we associate with the book. There was never any essential reason why we should consign our novels and parts catalogs to the same artifacts, or why we should sell poetry and cookbooks in the same retail outlets, and now that we can imagine doing things otherwise, the contingency of the present is brought home to us. . . . [W]hen everything is possible, nothing is forgone.”²⁴

So, digital publishing is a distinctively appropriate and perhaps increasingly the best means of publishing for the purposes of scholarship. Will digital publishing help reach the educated public? Some say no. It is certainly hard to imagine that the internet will take a proportionately smaller proportion of that public’s attention. Even if we limit our focus to the amount of digital material used in teaching, the point is made.

But will digital publishing make it easier to pay the bills? In many cases it already is. We predict that the ACLS History E-Book Project, begun in 1999 with a generous subsidy from the Andrew W. Mellon Foundation, will reach operational sustainability in the next two years.

Still, there is no underestimating the dislocations that the use of digitization has produced. One useful approach to understanding these has been recommended to me by my colleagues, Eileen Gardner and Ron Musto, the directors of the ACLS History E-Book Project. It comes from *The Innovator’s Dilemma*, by Clayton Christensen, which focuses on distinction between “sustaining” and “disruptive” technologies. Sustaining technologies “foster improved product performance,” i.e., they attempt to perfect current models and maximize revenue streams and work flows along existing channels. This is exemplified by companies that have had excellent management,

²²Geoffrey Nunberg, ed., *The Future of the Book* “Introduction,” 19-20.

²³Cavallo and Chartier, 135.

²⁴Nunberg, 19-20.

design, distribution but have suddenly failed: for example, Sears in retail, IBM in mainframes, Xerox in reproduction.²⁵

In this sense the university press print monograph and print-first e-book models are perfect examples of a sustaining technology: university presses do these very well. In comparison, “disruptive technologies” in the short term under-perform established products in mainstream markets. They are aimed really at emerging markets, but also they are typically cheaper, simpler, smaller and easier to use; using experimental workflows and work groups. These all take risks and use unproven technologies. Recall that in their time, the first printed books were by this definition disruptive, too. Recent examples might include the cell phone, digital photography, the electric and the hybrid car, and now on-line music stores. The move from Napster—a marginalized, and ultimately outlawed technology—to the highly successful iTunes in the space of only two years, has supplanted decades-old marketing methods and institutions. It is a perfect example of disruptive technology. It demonstrates a new attitude toward technology per se, toward copyright, distribution, access and forms of use.

In e-publishing examples of disruptive technologies include JSTOR, Gutenberg-e, the California Digital Library, and our own History E-Book Project. These are—or began as—small work-groups, spin-offs of larger organizations, flexible in their personnel, budgeting, technical innovation, and marketing, able to sidestep the structural roadblocks of scale, corporate organization, and marketing truisms. So far, beyond expectation, they’re working—structurally and even sometimes financially.

Christensen’s work suggests that for university presses to change what they do so well will require fundamental adjustments in structure, personnel, workflow, and business models that are so far emerging only dimly. Am I here to make a virtue of disruption? Well, why not? Or, more exactly, I am underscoring the certainty of uncertainty and of the necessity of shape-shifting in adjusting to the new dynamics of a world of digitized scholarship. New configurations, partnerships and functional alignments among presses, libraries, universities, learned societies and others will be essential; many are forming already. This shape-shifting is hard on our organizational nerves. To conclude with my opening image, I can imagine that the presence of the trickster raven of Northwest Coast legend was intended to take seriously the anxieties we all experience as we contemplate uncertainty. But remember that the trickster is also the creative force. I think we humanists will all have to take our chances if we’re to come out from under the clamshell.

²⁵Clayton M. Christensen, *The Innovator’s Dilemma*, (New York: Harper & Row, 2000).