

UNIVERSITY OF MASSACHUSETTS AMHERST  
OFFICE OF THE FACULTY SENATE

From the 684<sup>th</sup> Regular Meeting of the Faculty Senate held on April 23, 2009

COMMITTEE OF THE WHOLE  
“IMPACT AND IMPLICATIONS OF DIGITAL SCHOLARSHIP”  
MODERATOR: ARTHUR KINNEY, CHAIR OF THE RESEARCH LIBRARY COUNCIL  
(QUESTIONS AND DISCUSSION TO FOLLOW)

Arthur Kinney, Chair of the Research Library Council

The Research Library Council asked the Rules Committee to appoint an ad hoc committee to look into the impact and implications of digital scholarship since we saw a seismic shift in the profession and wanted to examine it closely. The Rules Committee created a committee of the faculty listed at the end of page three of the summary report. That group includes a representative from the Academic Matters Council, one from the Graduate Council, one from the Research Council, one from the Research Library Council as well as representatives of the north and south ends of the campus and the Massachusetts Society of Professors.

Digital Scholarship is an issue which is getting a lot of attention. The latest issue of *The New York Review of Books*, which arrived today and is dated May 19, 2009, talks about Robert Darnton at Harvard where, as librarian, he presides over an extensive new program that goes well beyond putting existing publications on the web. The Faculty of Arts and Sciences voted in February last year that all scholarly articles by its professors should be placed online with open access before they are printed elsewhere. That is a move that the Chancellor passed on to our committee, and we are grateful for that.

Digital scholarship involves virtually all the elements of what we do as faculty members. It involves the Library: how it manages its space, what it spends on acquisitions and how that is decided. It talks about the way works are disseminated. Indeed, copyright and author's rights are held, given up or retained in some special fashion. It also deals with personnel decisions since the problems of how you evaluate digital scholarship, even web building, for example, will play into the processes of extending contracts, getting tenure or getting promotion. Many universities, probably this one as well, need to be looked at.

You have the initial statements that our committee has come up with in these three pages that we handed out. I have asked members of the Committee to take about five minutes each to expand on each of those sections. I will not do more than name the members now: Jay Schafer, the Director of Libraries, Bruce Wilcox, the Director of our University Press, Marilyn Billings, who is the head of ScholarWorks at the Library, and Stuart Shulman in Political Science, who will talk about personnel matters. I will turn it over to them. Then, we will open it up for questions and comments. We will come back to you with a final report that will be based on what we said here but also what we learned from you today.

Jay Schafer, Director of Libraries

What does digital scholarship mean to the Library? The information landscape of early 21<sup>st</sup> century higher education is characterized by ubiquitous digitized, indexed, online access to content. Researchers and students often begin and end their quest for information online. Results of research can be and increasingly are published without traditional publishers or conventional formats. What are the critical functions of a research library in this changing landscape? How should we be rethinking the research library in a dynamic, swiftly changing landscape dominated by digital technology?

As users become more digitally focused, the demand for electronic formats increases. In meeting this demand, libraries are spending more of the acquisitions budget on electronic resources. Sixty-two percent of our acquisitions budget at UMass Amherst Libraries is spent on electronic resources—less is spent on print resources. Sixteen percent of our budget is spent on monographs and fifteen percent on print journals. While the preference for electronic resources is clearly higher in the science, technology, medical and social science disciplines, humanists are quickly becoming familiar with this format for journal publications and digitized historical manuscripts and will soon have extensive monographic collections available digitally through the Google Library Project. Multimedia formats are becoming more requested for curriculum use which also increases pressure on the print budget.

Traditional models of staffing are being challenged by technology and budgets. In-person reference desk statistics are falling, but the need for work with students and faculty, especially in the area of information literacy, is not. Reduced budgets for staffing will require prioritization of services provided by libraries. Skills required to collect, organize, deliver and preserve digital information are very different from those associated with print collections. Long-term employees may be challenged by the transition from print to digital, and we must maintain workflows because of continued, although declining, acquisitions of print and the maintenance of large, legacy print collections.

Space in library facilities that has historically been used to house large print and microform collections is now being re-imagined as the demand for these materials decreases and the demand for new collaborative service and student areas increase. Before space can be used differently, the less used print and microform collections must be housed elsewhere. In moving collections to safe, remote shelving areas, it should be remembered that use of these materials differs greatly by discipline.

*Bruce Wilcox, Director of the University Press*

Arthur asked me to speak briefly about the issue of economic sustainability. It is a crucial part of this discussion—in fact, it has been the driving force behind the movement to find new models for disseminating research and scholarship. The old system is in crisis as a direct result of the predatory pricing policies of commercial journal publishers over the past 30 years. Over time, academic libraries became hard pressed to maintain subscriptions to increasingly expensive journals, particularly in science, technology, and medicine. Sustainability was challenged. Hence there has been a call for change.

So the question is how to create a cost-effective system that maximizes access to new research while still covering the expenses associated with the publication, dissemination, and archiving of that research.

Institutional repositories and open-access journals represent one promising approach, and the recent actions by the faculties at Harvard and MIT are important steps in that direction. Open-access has numerous advantages. It will help to make faculty research more widely available. It will increase rates of citation. And it will open up new possibilities for collaborative research and teaching.

But knowledge is expensive to produce. In addition to the author's own work, it requires many other contributions of expertise. If we are to create a new system that is sustainable, we have to find ways to pay for those contributions. They include the selection, peer review, and editorial development of high-quality scholarly work; the intensive and often hidden labor that goes into its presentation in an appropriate format; and all the processes involved in making it available to readers and reviewers through various channels. These activities require the work of trained professional staff and a significant investment in whatever medium is selected for delivery—whether it be web-based, ink-on-paper, or both. For a typical scholarly monograph, the upfront costs are \$20,000 or more.

In the old system, these publication costs were borne primarily by the libraries and individuals who purchased books or subscribed to journals. In an open-access system, we will need to find new ways to cover those expenses.

University presses and academic libraries are actively exploring new models—both economic and technological—but we are still in the laboratory stage of experimentation and development. One interesting model can be found at the National Academies Press, which provides, at its website, free page-by-page access to all of its books, while simultaneously offering PDF downloads and print-on-demand hard copies for sale. Since researchers seldom want to read a book cover-to-cover on screen, the Press generates a sufficient revenue stream through the sale of printed books. Printed copies are also used for various other purposes, such as academic exhibits and review copy distribution.

Of course copyright issues inevitably come into play, and Marilyn Billings will be talking about author rights in a moment. Google, which has already digitized over 7 million books through the Google Library Program, is clearly going to be an important player. At the UMass Press, we have had a partnership with Google for the past four years whereby more than 800 of our titles have been digitized and are now available through Google searches. Each week I get an electronic report from Google that documents the search activity for each title. This week, for example, we had 11,000 book visits, 98,000 pages viewed, and 130 clicks through to an “order from a bookstore” page. The Google search engine helps to bring our books to the attention of tens of thousands of people who might not otherwise be aware of them, and some of those searches lead to sales of printed copies.

Among academic librarians there is considerable ambivalence about Google—and specifically about the prospect of the creation of a universal library that is controlled by a large corporation. Monopolies tend to charge monopoly prices, and librarians worry that Google will ultimately devise a pricing structure that favors profitability over access. We don’t have time today to discuss the multiple ramifications of the Google Library Program and the recent \$79 million legal settlement with the Authors Guild and the Association of American Publishers.

But I will say that I expect in coming years an increasing number of university presses will move to a model in which scholarly monographs are produced and distributed digitally, and sold primarily on an aggregated subscription basis with an option to purchase individual hard copies via print-on-demand. That has already become the norm for many scholarly journals. The challenge is to design, test, and develop new sustainable models for this kind of digital publishing.

### *Marilyn Billings, Library*

I am here representing a small subcommittee of the Ad Hoc Committee. Kevin Klement and I addressed author rights and copyright. The Ad Hoc Committee has identified several ways in which the impact of digital publication and new publication technologies generally makes it imperative that faculty members and other authors in the University community become informed about issues regarding their rights as authors, including how these rights are created and possibly reassigned, modified, sold, separated, shared or lost. When an author first creates a work, he/she owns a copyright to it, including the right to distribute, modify, publish, reformat, publically perform and display it and/or create derivative works based upon it. Unless assigned away, under U.S. law, these rights are retained by the author or his/her designees until the death of that author plus 70 years.

Many faculty members assume incorrectly that these rights are either retained in full or given away in full when the work is taken over by a publisher and that they are held by the nominal copyright owner. However, the extent to which these rights are retained or given away vary widely and depend on the precise nature of the agreement or contract that the author enters into with the publisher. The Committee encourages authors in the University community to pay careful attention to these agreements and take note of changes or important differences.

Institutions such as the Scholarly Publishing and Academic Resources Coalition (SPARC) and the Creative Commons group are working to create alternatives to exclusive publishing agreements so that authors may retain their rights to distribute their own works more openly. For example, they provide resources for creating addenda that academic authors may wish to add to their agreements with publishers to ensure that they retain the right to distribute their works electronically or publish online. The NIH also requires that all published works, resulting from research supported by NIH

funds, be made available in their open-access repository. Many leading universities, including both Harvard and MIT, are now requiring their faculty authors to grant these institutions non-exclusive rights to make their work available in an open-access environment. Through our ScholarWorks program, UMass already offers a mechanism whereby faculty authors who wish to distribute their scholarly works in an open access platform may do so.

Lastly, there are other ways in which the proliferation of both online publishing and other newer publication technologies such as print-on-demand is changing the way both authors and publishers think about their rights. For example, it was at one time common for publishers to return full rights to authors of out-of-print publications that the publisher did not want to re-release. With current technologies, however, fewer and fewer works can ever be considered out-of-print in the traditional sense. Hence, publishers may be less likely to make such concessions.

Stuart Shulman, Political Science

We just had a conference here at UMass about YouTube and the 2008 election cycle. It was externally and internally funded and brought about 70 people together. The types of objects produced included videos that are on YouTube about research. Typically, these kinds of scholarly artifacts and digital objects would count for naught in promotion and tenure decisions. There are now a bunch of emergent questions growing out of the arrival of these new technologies and new scholarly productive venues for which the peer review process would be a useful extension. That is to say, although these objects do not typically fall within what we think of as university scholarship, some of them are done at such a high-level quality and convey such sophisticated and significant information that they are in fact scholarly objects for which peer review would make sense.

These are new questions about different types of scholarly contributions that do not have simple answers. For now, the burden is on the scholar to explain to the promotion and tenure committee why these scholarly artifacts count as service, research or as some hybrid of service and research. We do not presume that these will affect all disciplines in the same way, although we do see a convergence around experimentation with new ways of conveying scholarship.

In my own field, which is political science, if we only looked to the top-tier, print-based journals, we would come to the conclusion that the internet had not yet been invented because there is no scholarship in those journals about the internet. We are well into the internet age, and yet the scholarly gatekeepers have kept the internet out of the pages of political science journals. This is an important issue. We see new contributions such as software tools, data set archives, websites and databases. For example, the Dartmouth Dante Project or the Dataverse, which is a place for storing replication datasets, are new types of scholarly contributions for which personnel committees and departments and disciplines will need to make informed judgments about how to assess their value and contribution as scholarly artifacts. We know that when people post datasets on the web, as part of their publishing, it attracts a lot of attention. Studies have shown that articles are more likely to be cited when the data is available. Should we be looking at new ways of calling attention to our research as significant? The old metrics simply may not suffice. But, there should perhaps be a vigorous effort to extend peer review to scholarly objects that have not previously been deemed worthy of that.

The Committee agreed, although we had various discussions, that this is ultimately the prerogative of departments and disciplines, and it is up to individual personnel committees to make decisions about how to handle these issues. What remains, despite all the changes, is the preeminence of peer review as a scholarly practice. We need to discuss ways for reviewing different types of objects and bringing the peer review process to bear, perhaps in new and interesting ways so that research is more open, more transparent, more reflexive and more dialogical. We bring these issues to your attention without any prejudgment about their value.

Chair Kinney – In my lifetime, at least, this is the most revolutionary transition I know in research scholarship and in higher education, and it is really the intention of this Committee to stay ahead of the curve.

Secretary May – Harvard and MIT seem to have gotten around copyright issues by asking faculty to introduce their works into ScholarWorks prior to publication in a journal. Could you explain how that works and how the journals respond to that?

Senator Billings – They put a Creative Commons license on that material so that they retain the copyright to it. In negotiations with the publishers, they say that Harvard is mandating that their faculty put material into their digital repository first. According to a Scholar Communication representative at Harvard, that trumps the publishers.

Chair Kinney – In *The New York Review of Books* article, Grafton said that he saw the end of journals as we know them.

Director Wilcox – Occasionally publishers object to putting the finished, edited publisher's version on the digital repository. The thought is that it is the scholar's work, prior to being submitted to the publisher, that goes in.

Senator Billings – But, it is peer reviewed. They call it the final, peer-reviewed, post-script.

Senator Andrew Donson – On average, it costs \$20,000 to publish a print book. How much would it cost to publish a book purely digitally without marketing or having to distribute it?

Director Wilcox – You are not saving as much as you might imagine. You are saving on paper printing and binding, and you are saving, to a certain extent, on distribution. But, there are other costs involved in getting publications up on servers and making sure they stay there and so-forth. I have not seen any detailed comparisons, but the general response is you save a bit but not as much as you might imagine.

Secretary May – What would be the impediment to our Faculty Senate adopting a policy similar to the Harvard and MIT policy? If there are no impediments, will such a report be forthcoming from the Research Library Council?

Chair Kinney – That is a possibility, but we really are open now to get some comments and reactions to see where the campus would like to go and feels comfortable in going. I must point out—and Grafton seems not to understand this in *The New York Review* article—there is a kind of opting out by an author who can decide not to go along with Harvard and to keep copyright on his/her own work. There is a sense in which that will happen less and less and perhaps finally not at all. That is something to consider.

Senator Billings – In May of 2007, the Faculty Senate voted to use open-access publishing whenever possible and to continue to explore these methods of sharing our digital research and scholarship.

Chair Kinney – What was the result? Have you gotten a lot of support?

Senator Billings – We need to do a lot more communication about this with the faculty. A lot of faculty are unaware that we did that.

Director Wilcox – To give Marilyn credit, when Harvard put its policy into effect, it did not yet have a digital repository. Thanks to Jay and Marilyn and the people in the Library, UMass has been out ahead with the digital repository and ScholarWorks. A lot of others look to this campus to see that model.

Senator John McCarthy – I read all of the copyright releases from the journals. In my field, they vary widely. There are all kinds of statements about whether you can put the work on the web, in what form and how long you have to wait after original publication. I have also encountered an odd situation with MIT. When they started to put their courses online, they wanted to put some of my

papers on their servers as a required reading in one of the courses there. They wanted me to sign a license—it may have been the Creative Commons one—that included the prospect of people creating derivative works of any kind. Why would anyone sign away to a random stranger the right to modify their work?

*Senator Billings* – There are a lot of options within the Creative Commons license, including the right to allow others to create derivative works or not. We recommend that you not allow others to create derivative works.

*Senator Richard Bogartz* – We have voluntarily handed over the peer review process to the journals. Is anything in the works to take peer review back from the journals?

*Professor Schulman* – This kind of change is emergent. It is not a movement, though there are people organizing around it. The peer review process is retained by journal editors and staff within journals who are generally faculty doing their service to the community. Under the current standards, the way you get permission to run an authentic peer review process is to be in a relationship with one of the twelve corporations that control academic publishing. This is problematic.

Part of what comprises the universe of digital scholarship is reputation-based systems that are embedded in software. This software is not running the way a Google algorithm runs but includes algorithms similar to the ones that make Google or Web 2.0 platforms possible. They allow for rating, ranking, reviewing, posting, and the reposting of links. They are reputational systems that have emergent properties that no one actually can wrap their heads all the way around and describe or control. They are the product of many distributive decisions made by individuals who have chosen to adopt a platform that allows for one of these reputational, referral, recommender or ranking systems. Papers are rising to the top in the vast sea of the web and becoming known, not because they are published necessarily in the top-tier journal in a discipline, but because hundreds or thousands of people have in one way or another pointed to that paper. It is that system that creates the possibility of rendering the pointers and rankings and allows the cream of the crop to be discoverable. Search and other types of technologies now allow things to go on in the scholarly dissemination world that are beyond the reach of the publishing companies.

*Senator Billings* – Other pieces of open peer review are happening with situations such as arxiv.org. Originally, the repository was at Los Alamos. Now it is at Cornell. It started as a physics repository where physics faculty and researchers could put their papers. It was openly accessible to anyone to review. Now it includes chemistry and biology and some other disciplines as well. It is a subject access repository. Those materials, after they have gone through this open-review process, actually end up in traditional print journals to get that final imprimatur of the traditional print venue.

Also, ScholarWorks has peer review software behind it. We have several journals up and running, sponsored usually by one of our faculty members. Sometimes there are graduate student journals. It uses the same high-quality editorial and peer review functionality that you would find in the best journals out there. ScholarWorks also makes conference proceedings available while it is taking place if people are interested in hosting their conferences in an open and peer-reviewed fashion. We will be adding YouTube to our repository soon.

*Chair Kinney* – A number of academic societies depend on the return of a print journal for their dues. That will clearly change. We are not sure whether you can substitute a digital journal or whether it will be difficult for academic societies to find income and continue. Digital scholarship has a number of implications.

*Senator Brewer* – I think people need to be mindful of the kind of platforms that they are using and the potential for those platforms to encapsulate or limit rights in ways that our current environment does not. A number of people have heard me describe what the University would be like if it were set up like SPARK. There would be one door to the University, and you would have to swipe a card to get in. Once inside, you would only be able to see the other doors that you are allowed to go through.

All the other doors would be invisible. You would not even be able to tell that they exist. When your students came into the classroom, they would find that the blackboard was covered in glass and the chalk was locked in a box and that they were wearing blinders so that they could only see forward.

People say, “You can’t just let anybody in.” I say, “Well, do you know that every one of the 300 people in your class is a student? When you go to a meeting at the Campus Center and pick up a boxed lunch, does anyone check to see that you have a University card and are allowed to get a lunch? We mostly do not worry about that in the physical world. In the electronic world, we need to be more mindful of those kinds of things, but it is also possible to create an extremely repressive regime. It is possible to take away rights that the company decides they do not want you to have. Or they can change your rights. For example, the people who were listening to the Kindle read them books on tape all of a sudden had that right taken away. They had already bought their book and then that feature was turned off. It is something that all of us need to be mindful of. We need to begin thinking long-term about the kinds of rights in our current environment that we need to capture and preserve.

*Director Schafer* – Publishers are the ones who sued to turn off that particular function of Kindle. The whole issue of copyright and the right to use and re-use material is going to become much more important in the future for publishers and owners of copyright. Google will be the repository for the copyright registry. It is very important for faculty to maintain awareness and teach their students about copyright, licenses and publisher royalties.

*Senator Brewer* – It is true that publishers sued to have the right taken away, but it was buying into a closed platform where you did not control the information yourself. You were restricted by the vendor. The vendor controlled how you interacted with your own data. It is important to make sure there are open standards that everyone conforms to that are clearly understood. This will prevent people from being able to retrospectively take your rights away.