Academia as a Commons

How open technologies can help higher education expand collaboration, innovation and public access to knowledge.

By David Bollier

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David Bollier has been the Croxton Lecturer at Amherst College for the past semester, teaching a course, "The Rise of the Commons." Below are remarks that he delivered at the Robert Frost Library on April 26, 2010.

I realize that any mention of digital technologies and copyright law can induce a certain mental stupor among many people. The topic is rife with many complicated legal and technical issues. But I believe that we commoners have too much at stake to leave copyright law to the lawyers and the Internet to the techies.

The very mission and identity of academia is implicated in the future of digital technologies, the Internet and copyright law. At stake is the ability of colleges and universities to act as inter-generational stewards of knowledge… to assure that their own scholarly output is freely accessible and usable…. to curate knowledge in better ways and to disseminate it as broadly as possible….and to foster innovative research and learning.

Unfortunately, we find ourselves in a messy interregnum between the age of centralized mass media dinosaurs and the distributed, open, participatory platforms of the Internet. We are caught in a political and cultural morass filled with constant disruption, confusion, angst and uncertainty. There is one thing that I am certain of, however: This is the time to seize the initiative. Rarely have the forces for progressive change in education had such wide, inviting openings.

In my remarks today I want to explain how networking technologies are changing the economics of creating and sharing knowledge — and how this change has enormous potential to empower academic disciplines and institutions. While there are all sorts of new initiatives transforming

teaching and learning, I will focus on open access publishing, institutional repositories, open courseware, and the broader Open Educational Resources movement.

I think it's time for Amherst College and the Five Colleges to think more expansively about how they might participate in, and even lead, some of these important transformations.

As a newcomer to Amherst College (at least as a faculty member), I won't pretend to know the institutional history and habits, faculty and library politics, technological capacities, and — let's be frank — the sheer inertia — that may complicate any attempts to move forward into the digital frontier. But I do know enough about the larger trends in "open education" (as it's often called) to suggest that they will transform higher education. They already are. Our stance shouldn't be one of reluctant accommodation to the new realities, but rather spirited leadership in making the most of them.

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I had an epiphany about this topic when I learned that USC gives all incoming freshmen a "copyright compliance" letter. The letter outlines situations that likely constitute copyright infringement, and it warns of "serious financial and legal consequences" for any infringement. It even invokes the fearsome specter of the Recording Industry Association of America and the Motion Picture Association of America and their take-no-prisoners enforcement policies.

Shockingly, USC states that its purpose is "to promote and foster the creation and lawful use of intellectual property." That was news to me. I thought academia had more elevated, larger purposes!

Now, don't get me wrong. I believe in copyright law and in the obligation of colleges and universities to respect the law. But the USC statement struck me as an unseemly category mistake, if not a retreat from academia's central purpose. Academia is about the liberal sharing of knowledge with other scholars, scientists and the public. Sharing is a necessary precondition for learning and research.

Disturbingly, the USC letter to students made no mention of a student's fair use rights under copyright law and therefore their lawful ability to copy and share information under certain circumstances. Instead, the University declared its eagerness to serve as copyright enforcement police for the entertainment industry — a regrettable case of "cognitive capture," one might say.

The USC letter got me to thinking — Why aren't all students in our country sent a letter from their college or university that reads:

"As a member of an academic community, you have an affirmative duty to share your work with your peers and as widely as possible. That is a major responsibility of belonging to an academic commons. By making your work freely available, it acknowledges your debt to prior generations of scholars. It also improves contemporary academic research by subjecting it to the widest, most rigorous scrutiny. And will make it easier for future scholars to develop their own discoveries and innovations, and so contribute to a more bountiful future."

If we stand on the shoulders of giants, as Isaac Newton famously declared, why should academia so willingly embrace the closed, proprietary norms of the entertainment industry? Academic knowledge should be regarded as the inalienable resource of a commons.

Why, indeed, should academia even use the term "intellectual property"? The term was barely used thirty years ago, even by law scholars and attorneys. Copyright industries deliberately popularized the term as a way to strengthen their claims of absolute ownership. It was also a way to demonize unauthorized uses of copyrighted works that are entirely legal, as "piracy." That point bears repeating: Many unauthorized uses of copyrighted works are entirely legal!

The "peculiar power" of an idea, Thomas Jefferson once wrote as the nation's patent commissioner, is "that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lites his taper at mine receives light without darkening me."

This, in fact, is the great virtue of academia — its ability to generate and freely share knowledge for the betterment of everyone, without anyone being worse off. *Terras irradiant,* one might say.

Academia is a special class of commons often called a "gift economy." People make "contributions" to the field — through research, lectures, collegiality, etc. — and those contributions are shared by the community with no expectation of direct personal reward beyond recognition and respect.

This is what makes an academic commons so productive. As sociologist George Simmel has written, gratitude to a community "establishes the bonds of interaction for the reciprocity of service and return service, even where they are not guaranteed by external coercion." Sharing, reciprocity and "gift-exchange" are a powerful alternative way of generating value — one that is quite different from the marketplace and its strict *quid pro quo* relationships based on cash and legal contracts.

In a book called *The Gift: Imagination and the Erotic Life of Property* — which has become something of a cult classic — essayist Lewis Hyde explained the centrality of gift-giving to creativity and learning. I am thrilled that Lewis — who has since become a friend — has a terrific new book, coming out in August, on the cultural commons. It's called *Common as Air: Revolution, Art and Ownership.* In it, he recounts the long history of copyright owners trying to enclose the commons of information and culture.

Hyde decries the power of market culture to dominate and overwhelm spheres of life that ought to be governed by their own ethics and norms. Paraphrasing philosopher Michael Walzer, Hyde writes: "It is in the nature of tyranny for one realm of life to desire power outside its own sphere, and over the whole world even." He also cites William Blake: "One Law for the Lion & the Ox is Oppression."

This sums up the problem now facing academia. It exists in a market culture, but its ethics and "value proposition" are quite different from those of the market, and must remain so. Its mission

is not to develop an inventory of marketable intellectual property. It is the steward of a vast knowledge commons. It therefore must be vigilant in protecting and managing this commons.

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I wanted to give this brief introduction to the commons because I think it helps us understand how the conflicts over the control of knowledge in academia echo the titanic clashes now roiling the film, music, publishing, journalism and broadcasting industries, among many others.

Much of the tumult that we are experiencing can be traced to what I call The Great Value Shift. In the networked environment, we are being forced to recognize that markets — and hierarchical, centralized institutions such as the corporation — no longer have a monopoly on the ability to generate value. Self-organized communities can frequently do things faster, more creatively and more efficiently than conventional markets.

The commons is beginning to out-compete — or out-cooperate — the market. There is now, in fact, a robust Commons Sector. We can see this in the rise of the Linux computer operating system vs. Microsoft; the rise of Wikipedia as a challenger to *Encyclopedia Brittanica*; the triumph of Craigslist over newspaper classified ads; the popularity of serious blogs as trusted alternatives to conventional journalism; among countless other examples.

"What we are seeing now," writes Professor Yochai Benkler of Harvard Law School in his book *The Wealth of Networks*, "is the emergence of more effective collective action practices that are decentralized but do not rely on either the price system or a managerial structure for coordination." Benkler's preferred term is "commons-based peer production," by which he means a system that is collaborative and nonproprietary, and based on "sharing resources and outputs among widely distributed, loosely connected individuals who cooperate with each other."

Sounds a lot like an academic discipline or college or university to me!

Given the natural capacities of the Internet and networking technologies, you can begin to imagine how they might be able to super-charge academia's propensities to share and collaborate. (It wasn't an accident that the Internet's very protocols emerged from within academia, and not from the marketplace.)

In the online world, we are increasingly seeing that the price system of the market is too crude an instrument for animating human talent and communicating what has value. Economists generally don't appreciate that conventional markets tend to have lots of hidden costs — capital equipment, bureaucracies, legal contracts, talent-recruitment, advertising, brand management, and countless other dreary things.

Economists can't imagine the viability of the commons, a place where people wish to volunteer their time building free software programs, editing entries on Wikipedia, sharing their photos for free on Flickr, and participating in collaborative projects that proofread books, classify the craters of Mars for NASA, and aggregate their sightings of birds and butterflies.

These projects are among the phenomena that constitute the rise of the commons. The subversive story line that is emerging is the commons as a new principle of bottom-up generativity.

Which brings us to copyright law.

Conventional industries, including publishing, don't like being out-flanked. And so to protect their obsolete business models, they have run to Washington to get all sorts of new laws to expand the scope and terms of copyright law, and to stiffen the penalties for infringement, and indeed, to criminalize basic creative freedoms and cultural practices.

This is a lengthy story unto itself, but let me just name a few of the more egregious aspects of the copyright wars.

After Congress had expanded copyright terms eleven times between 1960 and 1998, the Disney Company prevailed upon Congress to give it another go, and expand the terms of copyright law by twenty years for already existing works. It was a pure power grab by copyright industries to keep tens of thousands of cultural works — including Robert Frost's poetry and, most significantly, Mickey Mouse — from entering the public domain. (As a result of that law, this speech would normally be locked up under copyright for the rest of my lifetime plus 70 years — say, the year 2100 — because that's supposedly the monopoly incentive that I need in order to produce it!)

Then, of course, there is the Digital Millennium Copyright Act has essentially wiped out the public's fair use rights in digital media and inhibited the reverse-engineering of software.

Tech companies frequently use one-sided, highly restrictive Web "click through" contracts and software "shrink-wrap" licenses to limit how we may use works. And entertainment industries are trying to make Internet service providers and universities serve as copyright police for them. They also want to impose a "three strikes" system so that you permanently lose your Internet service for copyright violations.

This unprecedented cultural lock-down is disrupting the careful balance that was historically struck between authors (which is to say, publishers) and public needs.

It's important to remember that copyright as a body of law is intended — under Article I, Section 8, of the U.S. Constitution — "to promote the Progress of Science and the Useful Arts." The point is not to give authors or publishers broad monopoly rights in perpetuity. The point is to induce them to produce and sell new works, and in so doing, to expand human knowledge and culture.

In the digital environment, however, copyright law, as now formulated and enforced, often inhibits this goal. This has obvious consequences for the ability of the academy to carry out its core mission.

The traditional way of assuring access to knowledge has been fair use — that is, the legal doctrine that allows us to quote, excerpt and re-use copyright works without permission or

payment. Unfortunately, fair use is notoriously vague, complex, contradictory, and prone to subjective interpretation. There are few bright lines for truly knowing what's legal to use and what's not. Professor Lawrence Lessig has called "fair use" the right to hire a lawyer.

Over the past decade or two, a series of court cases have also reduced the scope of fair use rights:

• James Joyce's estate for years prohibited scholars from quoting unpublished letters that might reflect poorly on Joyce, until a lawsuit pried the documents loose.[1]

• Academics are routinely prevented from publishing images of famous artworks and song lyrics because they must clear the rights, which are either withheld of very expensive to obtain.

• In a major lawsuit that could have wide repercussions, Cambridge University Press, Oxford University Press and SAGE Publications are suing Georgia State University to limit access to digital copies of course materials.[2]

• Publishers are eager to maximize their revenues from licensing fees from coursepacks, which resulted in Amherst College paying some $400,000 in licensing fees this past year.

Over the years, a variety of "official" guidelines have been produced to try to clarify the morass of fair use, but they are a mixed bag at best. Professor Kenneth Crews of Indiana University has concluded that "most of the guidelines that purport to interpret fair use in fact bear little credible relationship to the law, and that the guidelines of the past are a weak foundation for developing new interpretations for the future."[3]

It has also been noted that publishers, educational administrators and sometimes libraries often show "undue caution" in their application of fair use principles. Others show "studied ignorance, clandestine transgression and hyper-compliance" — all of which may impair the quality of teaching and learning.

Fortunately, a new movement is arising to bolster fair use. Public Knowledge recently held World Fair Use Day, and American University's Center for Social Media is convening various creative communities to develop their own statements of best fair-use practices.

For example, documentary filmmakers developed their own fair use "best practices" statement in 2005. It has been a huge success. The four major insurance companies decided they would provide "errors and omissions" insurance for fair use claims. This emboldened many public TV stations and cable companies to air previously problematic films. Film producers have saved millions of dollars in licensing fees for rights clearances, a ridiculously convoluted and expensive process.

In the latest of a series of such projects, American University is now collaborating with the Association of Research Libraries to survey librarians about fair-use problems and practices. It hopes to come up with a library-based statement of fair use practices. But there is a need for a broader, more ambitious fair use statement by teachers and scholars in higher education.

I applaud these initiatives as vitally important. But I am also keenly aware that they keep us within a house of complicated legalisms. I submit that the long-term solution for higher education lies in inaugurating some new commons-friendly ways of managing knowledge.

By this, I mean it needs to learn how to build new commons for itself. That will require four types of tools — technological, legal, institutional and social. We already have the hosting super-architecture, the Internet. And there are hundreds of free and open source software applications that provide flexible platforms for sharing.

As for the legal tools, there are a number of important copyright-based licenses that need to be more broadly adopted, most notably, the Creative Commons licenses. The six basic CC licenses enable authors to bypass the strict terms of copyright law and signal that their works may be legally shared, without having to secure advance permission or payment. The CC licenses enable online communities to develop pools of shareable content — with none of the confusion and vagueness that afflicts fair use.

The licenses have proven so valuable that they have spawned a flourishing international movement. More than 50 nations have now adopted the licenses to their national legal systems, and another 20 are in the process of doing so. The BBC has put much of its television archives onto the Web with CC licenses, as have countless government agencies, colleges and universities, museums, nonprofits and other institutions around the world.

Finally, building academic commons requires supportive institutional policies from the college or university in question — and the social ethic and norms to support *commoning* — the social practices for maintaining a commons. These are arguably the hardest changes to implement.

The infrastructure for building academic commons is still a work-in-progress, but it has — over the past ten years — spawned the open access movement and more broadly, the Open Educational Resources Movement. Both are transforming education in fundamental ways.

OA takes two major forms: journals and archives (a.k.a. "repositories"). The point of open access is to leverage the power of the "Great Value Shift" that I mentioned earlier: it allows authors to publish at much lower costs than conventional publishing, and yet reach many more people. There are nearly 5,000 OA journals now being published, many of them as fully rigorous and peer-reviewed as the more established journals.[4] They're just not as well-known.

The idea behind open access publishing is to emancipate scientists and scholars from the grotesque over-extensions of copyright law by empowering them to publish and share their works for free, in perpetuity.

OA advocate John Willinsky has pointed out the perversity that "the last investor in the research production chain — consisting of the university, researcher, funding agency and publisher — owns the resulting work outright through a very small investment in relation to the work's overall cost and value." In many cases, publishers not only own the copyrights of academics, they contractually prohibit professors from posting their own articles on their websites. The

college gets no specific rights, and the public's interests in having academic work available is not even a consideration.

Since scientists and scholars virtually never earn money from their journal articles, and only occasionally from their books, why should they regard their works as "intellectual property" that must yield maximum revenues? They should regard their works as "royalty-free literature," as open access advocate Peter Suber puts it.

Academics should see open access publishing as a way to enhance their reputations in their fields while strengthening their disciplines, their institutions, and the public's access to knowledge. As this chart on online citation shows, the "impact factors" for open access works tend to be greater than conventional journals that are locked behind paywalls or only available in print.

There are several major obstacles to moving to OA publishing, however. The most important is developing new revenue models for scholarly journals. If subscriptions won't pay the costs of publishing what will? One of the leading solutions is for research funders to incorporate "author-side payments" into their research grants, so that authors can "pay" OA publishers to make their articles permanently available in OA journals. Alternatively, many colleges and universities help pay these fees, as Amherst College does.

Another major barrier to the adoption of open access publishing is the bias against it in promotion and tenure decisions. Prestigious and familiar commercial journals are seen as a more reliable proxy for quality research than the lesser-known, relatively new OA journals. So long as tenure decisions retain these biases, it will be harder for OA journals to come into their own and to supplant the more expensive, less efficient commercial journals.

Imagine what might be achieved if the Five Colleges, or the Oberlin Group of some 80 liberal arts colleges, were to take a more public, aggressive stance towards OA publishing! Some colleges are so committed to OA as a matter of principle that they actually limit their tenure and promotion reviews to articles on deposit in the university's OA repository.[5]

OA publishing represents a huge opportunity for libraries to cut their subscription costs. It gives scholars and scientists the chance to reclaim control over their professional output. And it lets colleges and universities demonstrate their commitment to the free flow of knowledge.

I might add that Harold Varmus — Amherst class of '61, and the Nobel Prize winner and former director of the National Institutes of Health — has been a pioneering leader of the OA movement, especially in helping launch the open-access Public Library of Science.

There are other things that Amherst College could do to promote OA publishing. It could emulate Harvard, Stanford, Duke, M.I.T., and more recently, the liberal arts Trinity University. The faculties of these institutions, by unanimous votes, adopted resolutions mandating that all faculty members publish their works in open access formats and deposit them in the university's repository.

Of course, implementation is key, and those plans are still unfolding. At Harvard and M.I.T., faculty may opt-out of the OA mandate, but they must make separate requests for each work, and they must give a reason for not publishing OA. The point is to throw the institution's reputation and authority behind OA so that publishers cannot have exclusive control over academic works. Why should the publishers get to own the final product after everyone else has done most of the work?

A small liberal arts school like Amherst College obviously has many different interests than a large research university. Still, all academics can benefit from OA, as both authors and researchers. NIH already requires that any research funded by it be published in an OA format no later than a year after its publication in commercial journals, and the National Science Foundation recommends that researchers disseminate their work through OA. Among different scientific and scholarly fields, of course, there are valid complications in publishing OA, but the inexorable trend is toward open access.

Another thing that Amherst College could do is to start its own institutional repository. This would be a dedicated space on the Web to showcase all the research, writing, datasets, syllabi and other output of Amherst faculty, not to mention public lectures, conference proceedings and even books.

As an American Studies major at Amherst College, I fondly recall the "Problems in American Civilization" series of books that the College hosted. The series established Amherst College as a leader in the field. Why not do something similar online? The barriers to entry to publishing have never been lower, especially as print-on-demand books become more prevalent. Institutional repositories can run on open source software, and can be relatively inexpensive to administer.

Establishing an institutional repository is not just a "nice thing to do." I think it's imperative in terms of being seen, heard and discussed in the Internet age. A friend of mine has quipped, with apologies to Oscar Wilde, "The only thing worse than being sampled on the Web, is not being sampled." There is no better way for a college to slip into obscurity than for its faculties' work to be locked behind paywalls or copyright restrictions, or to not even be on the Web.

UMass has had an institutional repository, ScholarWorks, since 2006. It contains students' dissertations and masters' theses, as well as the articles and other works from selected schools at the university. Librarian Jay Schafer reported to me that the downloads from ScholarWorks — more than 137,000 in December 2009 — represented the third-highest return on investment for the library, after printed volumes and articles — at half the cost of printed volumes and articles.

Two of the biggest referring sources to ScholarWorks are Wikipedia and Google Scholar. What this means is that many UMass scholars are being discovered and cited only because their works exist on an institutional repository. Shouldn't Amherst College faculty have this sort of exposure?

As one might expect, OA materials tend to be more downloaded than traditionally published materials. They are more cited than works that are locked behind paywalls. And they enable easier collaboration among researchers.

To help faculty assert their full rights as copyright holders, the library group known as SPARC — the Scholarly Publishing and Academic Resources Coalition — has devised contract language that authors can tack on to standard publishing contracts. The addendum guarantees authors' legal right to self-publish their own works in open access formats. Science Commons has developed a "Scholar's Copyright Addendum Engine" on its website to let authors choose and print out the right standardized addenda for them.[6]

Another important strategy is to put more of curricular materials online. M.I.T. pioneered this idea in 2001 when its president Charles Vest broke ranks with the prevailing thinking of the time — that universities would sell their knowledge in the marketplace — by announcing that M.I.T. would instead put all 2,000 of its courses online for anyone to use, for free. They called it OpenCourseWare.

It has taken many years and millions of dollars, much of it from foundations, to put the curricular materials online. But M.I.T.'s OpenCourseWare started an international movement. It has profoundly affected the teaching of science in China and many developing countries. Countless laypeople actually take the courses — although they don't, of course, receive grades or M.I.T. degrees. This chart shows the immense Web traffic that M.I.T. receives from people browsing or using its OpenCourseWare — 1.4 million worldwide visitors in October 2009.

More than 150 institutions in twenty countries have now developed their own OpenCourseWare projects and banded together as the OpenCourseWare Consortium.

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There are now countless Open Educational Resources projects. There is Rice University's Connexions, which offers more than 6,000 learning modules created and used by people around the world. The Science Commons is pioneering the Neurocommons, a project to use the Semantic Web to organize the sprawling literature of neuroscience. There is a flourishing open textbook movement led by community colleges whose students often have to drop out because of the high cost of textbooks. Open textbooks are licensed under Creative Commons licenses and can be obtained for the cost of printing on demand — bypassing the publishers who keep churning out expensive new editions every two years.

Obviously, many of these initiatives may not have direct interest to Amherst College or even the Five Colleges. But they represent ways for academic communities to reassert control over their missions. Hal Abelson, the M.I.T. computer scientist who helped advance M.I.T.'s OpenCourseWare project, put it well: "Without initiatives like these, traditional academic values will be increasingly marginalized, and university communities will be increasingly stressed." Colleges and universities should not be content with playing the role of aggrieved consumers and fair-use supplicants in seller-dominated markets. They should use the new OER platforms to change the terms of debate and assert greater direct control over their own resources. Developing a more pro-active approach to copyright and digital commons can give academia a bigger seat at the table when the fate of the "knowledge economy" is discussed in Washington, the state capital and the courts.

Technology, law and economics are big factors driving the OER movement, but the rise of academic commons is not primarily about cost-savings and avoidance of copyright problems — although those are important, of course.

Open education is really about institutional mission and identity. It's about maintaining academia as a commons. Can colleges and universities find the means to assure free inquiry and the free circulation of knowledge in the digital environment? Can they thwart market enclosures of their work, especially from the over-reaching of copyright laws?

Jimmy Wales, the founder of Wikipedia, has pointed out that the technology for wikis had been around a while. What was new with Wikipedia was its organizational leadership, governance structures and community ethics. Wikipedia was mostly a social innovation.

This is a sobering lesson: "all" we have to change is our social habits! That should be easy, but in fact it is the hardest challenge. Many faculty members don't know or don't care about the new-fangled digital systems. Tradition-bound institutions don't necessarily welcome innovations from the periphery, where, in the networked world, it always originates. Nor do they necessarily want to mix it up with non-academics and practitioners. People have a natural aversion to changing technological systems and institutions. Issues of control and accountability quickly come to the fore. And so on.

Still, the future cannot be ignored. The power of distributed participation and digital commons is only going to intensify in the coming years. Academia has a lot to lose by ceding the terrain to market players intent on enclosing academic knowledge for private gain. And it has much to gain by embracing the "power curve" that is now breaking in its direction.

Obviously, there are lots of unresolved questions that I've laid out here, all of which deserve further exploration and dialogue. But there are also lots of energy and imagination among the scholars, librarians, students, hackers, Web jockeys and artists of the Five Colleges. That's why my friend Marilyn Billings of the UMass Library and I are hosting an organizing meeting for a new group that, for now, goes by the name "Five College Commoners." We will be meeting on May 3, at 7 pm at the Amherst Alumni House, and everyone's invited.

It only takes a handful of resourceful individuals to help open up a whole new universe of possibilities. So we're going to see what we can do.

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Notes

[1] D.T. Max, "The Injustice Collector," The New Yorker, June 19, 2006.

[2] Jennifer Howard, "In Court, a University and Publishers Spar Over 'Fair Use' of Course Materials," Chronicle of Higher Education, March 19, 2010, p. A10.

[3] Kenneth D. Crews, "The Law of Fair Use and the Illusion of Fair-Use Guidelines," Ohio State Law Journal, vol. 62, 2001.

[4] A comprehensive listing of OA journals can be found at www.doaj.org; current publisher policies on copyrights and contracts can be found at www.sherpa.ac.uk/romeo.php.

[5] So far, three institutions have adopted this policy: The Edinburgh Napier U (4/25/08) http://goo.gl/DX2D; the University of Liege (first phase 3/07, second and official phase 11/08) http://goo.gl/NGlb; and the University of Oregon Department of Romance Languages (5/14/09) http://goo.gl/43dN. For more, see "Open access policy options for funding agencies and universities," SPARC Open Access Newsletter, February 2, 2009. http://www.earlham.edu/~peters/fos/newsletter/02-02-09.htm#choicepoints

[6] SPARC Addendum: http://www.arl.org/sparc/author/addendum.shtml; Science Commons' Scholarly Copyright Engine: http://scholars.sciencecommons.org.

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www.onthecommons.org