UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

Office of the Executive Director Telephone: (510) 987-9458 Fax: (510) 763-0309 Email: <u>maria.bertero-bertero@ucop.edu</u> Assembly of the Academic Senate, Academic Council University of California 1111 Franklin Street, 12th Floor Oakland, California 94607-5200

January 13, 2006

DIVISION ACADEMIC SENATE CHAIRS SYSTEM-WIDE COMMITTEE CHAIRS

RE: <u>Special Committee on Scholarly Communication (SCSC) Draft White</u> <u>Papers–Responding to the Challenges Facing Scholarly</u> Communications- 5 Papers and 1 Proposed Policy

Dear Division and System-wide Committee Chairs:

On behalf of the Academic Council please find attached the <u>above document</u>, which is being sent to you for review by your Division and Committees as appropriate.

At its December 14, 2005 meeting, the Academic Council discussed the SCSC white papers and the proposed policy on Scholarly Work Copyright Rights, with SCSC Chair Lawrence Pitts. Council agreed that the draft papers and proposed policy would be sent out for general Senate review and then eventually to the Assembly for its consideration.

In order to complete the review process in time to submit these papers and the policy to the May Assembly, it would be very much appreciated if you would submit your comments by the following dates:

System-wide Committees:By no later than March 8, 2006Divisions:By no later than April 5, 2006

As a reminder, please note that all requests for comments are sent out to all System-wide Committees and Divisions. Each Committee and Division may decide whether or not to opine. For System-wide Committee Chairs please notify this office either directly by emailing me or through your Committee Analyst, if your committee chooses not to participate in this review. For Division Chairs, please notify this office either directly by emailing me or through your Senate Director, if your Division chooses not to participate in this review.

Thank you for taking this matter under consideration.

Cordially,

Maira

María Bertero-Barceló, Executive Director Academic Senate

Encl: <u>1</u>

Copy: Academic Senate Committee Analysts Senate Directors

Responding to the Challenges Facing Scholarly Communication Overview (December 22, 2005)

During University of California negotiations with publishers of scholarly works in 2004, it became clear to UC faculty that the current models of scholarly communication had become unsustainable. UC Librarians and budget officers had seen this crisis approaching for some years. But long as library budgets could be managed and access to the most critical work could be maintained, faculty members were largely insulated from the growing crisis. When it became clear, in the face of falling university budgets and rising costs of publications, that the UC community's access to new knowledge would progressively be limited, and that the access by others to UC-produced scholarship would similarly be limited, the Academic Council (effectively the Executive Committee of the UC Academic Senate) established a Special Committee on Scholarly Communication (SCSC) to consider what role the faculty should take in addressing these important issues. The accompanying five short papers and appendices are the result of SCSC's work. The papers define and explain the faculty's view of changes that could improve dissemination of scholarly work to enhance the discovery and communication of new knowledge, and best serve the public interest.

The current model for many publications is that faculty write articles and books, referee them, edit them and then give them to a publisher with the assignment of copyright. The publisher then sells them back to the faculty and their universities, particularly to university research libraries. While there clearly are costs of publication, a number of publishers (particularly, but not always, for-profit corporations) earn munificent profits for their shareholders and owners. However, maximizing profits for these latter groups may work to the detriment of faculty, educational institutions and the public.

Meanwhile, opportunities to reduce production and distribution costs and to create innovative forms of publication and dissemination are increasingly manifest, and enabled by networked digital technologies, new business models, and new partnerships.

The papers explore this simultaneous challenge and opportunity from five starting points:

- One discusses copyright issues, and recommends that faculty authors adopt the practice of granting to publishers non-exclusive copyright of their research results, while retaining copyright for other educational purposes, including placing work in open access online repositories.
- Two consider recommended best practices, from a faculty viewpoint, for journal and book publishers respectively.
- One considers the role of scholarly societies in publishing, and recommends changes in some societies so that they may better support development and dissemination of scholarly work in their discipline, and at more economical cost.
- The final paper recognizes that technology has made and will continue to make available new methods of publishing and presenting new knowledge.

The University of California faculty recognizes that these changes must be carefully reviewed to ensure that the quality of presentation of scholarly research remains as high as or higher than in the past, principally by continued application of the well-established and tested process of peer-review. We feel that faculty, University administration, publishers and societies can work collaboratively not only to improve and sustain dissemination of scholarship, but can materially improve it using new technology.

It is the Academic Senate's intention to work actively with the University of California Administration to press for and enact the changes outlined in these papers, and to encourage their wide adoption throughout the world, both by other faculties and universities, and by the publishers of our scholarly work.

Evaluation of Publications in Academic Personnel Processes

(Approved for Systemwide Academic Senate Review by the Academic Council on December 14, 2005.)

Discussion Statement

The University of California Academic Senate recognizes and reaffirms the importance of a scholar's creation of new knowledge in fulfilling the faculty's role of education, research, and service. The process that a university faculty uses to make decisions about hiring, promotion and award of tenure relies heavily on scholarly works including publications. Historically, the quality of publications has been based in part on the quality of reviewers, presentation, and distribution, which features are well known for existing books and journals. As publications evolve with modern techniques of presenting scholarly works, these same features of quality must be continually evaluated and preserved.

Veterans of our academic personnel process feel the following statements are important in evaluating and maintaining the quality and accessibility of scholarly works that are used in assessing faculty performance:

- 1. The standard for evaluating scholarship is publication or presentation at peer reviewed, refereed outlets, as judged appropriate by faculty within each discipline. Rublication need not necessarily be in print.
- 2. Publishers of new and established books and journals should provide the following in a readily-accessible form:
 - a. Names and institutional affiliations of editors and referees
 - b. Names and institutional affiliations of authors for the past two or more years
 - c. Numbers of manuscript submissions and the acceptance rate for publication
 - d. Copyright, open-access, and archival policies for the publication
- 3. Using available information including what publishers provide, it is the obligation of the evaluating department to assess the quality of the publication and the publication outlet. Evaluation of presentations of scholarly work (conferences, concerts, galleries, and so on) should include an explanation of the importance of the venue.
- 4. Economic factors make it increasingly difficult to publish books in the humanities and social sciences. The University should therefore consider offering subventions in start-up support for new faculty, particularly junior faculty, to publish books in peer-reviewed presses.
- 5. Academic personnel committees will consider new forms and modalities of scholarly communication as they become available and are validated through experience, as well as new forms of evaluating them.

Background

Central to the life of the University is evaluation of a faculty member's research. Large price increases for academic journals, and the unwillingness of many presses to publish books with limited circulation, force the University to ask whether the ways it had evaluated publications in the past (relying largely on publication in peer-reviewed, printed outlets) remain appropriate and realistic, and to ask how to evaluate work appearing in electronic media. A subcommittee of the Special Committee on Scholarly Communication (SCSC), consisting largely of faculty who had served on a campus and statewide personnel committee,¹ reviewed the academic personnel policies of other universities and found few references to electronic publications. The State

¹ The roster of full committee and subcommittee members is maintained at <u>http://www.universityofcalifornia.edu/senate/committees/scsc/</u>.

University of New York at Buffalo requests in its "Promotion Dossier" a separate listing of "scholarly electronic publications with complete description of academic or professional nature and sponsorship of the electronic agency." Perhaps because electronic publication is new, most academic personnel policies do not mention them specifically. For example, MIT describes Research and Scholarship as "Contributions to scholarship resulting from research and study, including publication of books, articles, and reports" without reference to electronic publications or presentations.

In some fields scholarly activity is not judged by publication in journals or books. The performing arts (such as music or dance) offer one example. Nevertheless, evaluation can be rigorous. The factors that enter into academic review include the venues of performances (Carnegie Hall usually counts more than a presentation at a local community college), the content of published reviews, and the reputation of the reviewers (a review in the New York Times will likely count more than a local review). Computer scientists often publish in proceedings of refereed conferences. Some UC physics departments accept electronic journal articles for appointment and advancement cases; several view some papers published only electronically as equivalent to articles published in standard journals. Some departmental faculty give the Journal of High Energy Physics (JHEP) and the Journal of Cosmology and Astroparticle Physics (JCAP) equal weight to that of a traditional print journal, despite the Institute for Scientific Information's recent rating of JCAP as having the highest impact factor in the field. Furthermore, these electronic archives maintain a database of citations, allowing evaluation of a paper's impact.

Publication and presentation practices in different disciplines are likely to change over time, and academic personnel committees should regularly evaluate the merits of new practices.

Forms Of Evaluation

Review and evaluation of scholarly work should consist of a least two steps. First, the work should appear in a peer-reviewed outlet. Second, work should be evaluated after its appearance. Why the first step? It has the advantage that the venue and reviewers can be evaluated, for example, according to the quality of a journal, the standards of a journal editor, and the reputations of referees. In contrast, when we solicit a letter of recommendation, we know the academic quality of the writer, but we do not know what standards that person uses, or how the reviewer rates other people. Letters of reference are not substitutes for publication can also protect the University against weak departments or weak departmental selection or promotion procedures that might result in a narrow selection of external referees, and inappropriately finding the few, perkaps a small minority, who think highly of a candidate's work.

Evaluation of the work and its inpact after it appears is an important second function, performed by academic personnel committees with the help of other appropriate faculty. Acceptance by a prestigious venue pertains to a specific scholarly work. The committee should judge that work as part of the whole body of material, not abrogating or transferring its judgment to an external entity, such as a journal editor. The academic personnel committee also has the opportunity and experience, more than do ad hoc departmental hiring or tenure committees, to judge work broadly across disciplines thereby helping promote and ensure excellence across schools and campuses.

The University should welcome publication in electronic or other new media where appropriate, but faculty members and departments have a responsibility to explain the distinction of those venues in comparison with more established ones. Electronic publishing can provide several advantages, including quicker access to new information, web links, 3-dimensional graphing, and storage of data sets. But as we emphasize above, the quality of new methods or venues of presentation needs to be determined by carefully scrutinized peer review.

The evaluation of a new or established publication venue can include a number of factors. ISI publishes citations for over 8,700 international journals, and discusses the criteria it uses in selecting ten to twelve percent of the nearly 2,000 new journal titles it reviews annually. (See

"The ISI Database: The Journal Selection Process"). These criteria include the journal's basic publishing standards, its editorial content, the international diversity of its authorship, the timeliness of publication, and citation data associated with it. Other important features of a publication's quality are the credentials of its editorial board and peer reviewers, the reputation of other authors, the quality of work published, and articles citated. Electronic venues may offer new measures of a scholarship's utility, such as frequency of viewing and querying new work. In the end, departments, deans, and the faculty members themselves have the responsibility to explain how they regard a particular venue's quality and why, for both new and already established venues.

Conclusion

New ways of presenting and disseminating scholarly work are inevitable, but they must be attended by scrupulous protection of the quality of scholarship and extend successful practices in evaluating that quality. We offer the discussion and specific suggestions above to assist the UC and other university communities in their role of protecting and evaluating scholarship even as forms for its presentation evolve.

ADDENDUM TO THE SUBCOMMITTEE REPORT

The SCSC appreciates and agrees with the statements above, drafted by a subcommittee comprising former Committee on Academic Personnel (CAP) members and chairs, and based on their extensive experience using current methods in the selection and promotion of an outstanding faculty at UC. SCSC absolutely agrees with UC's CAPs that the quality of work presented in new publication methods must be of the same or greater quality as current scholarly works.

However, we want to stress that in the immediate future, the University, its faculty, and its evaluation processes will increasingly encounter new forms of, and new media for, scholarly communication. Many faculty may fear that they will be penalized for publishing in new venues. The University will be disadvantaged if innovative forms and media of scholarly dissemination are discouraged for no other reason than that they are new. In the current system we believe that the academic personnel process at times may place excessive reliance on the reputation of the venue to the detriment of specific assessment of the work itself. As the variety of venues for scholarly publication widens, all participants in the review process should rededicate themselves to judicious assessment of all faculty research. In whatever venue, and to extend to innovative forms of publication the same careful evaluation of scholarship upon which the University has traditionally telied to assure the quality of its faculty.

The Case of Journal Publishing

(Approved for Systemwide Academic Senate Review by the Academic Council on December 14, 2005.)

Discussion Statement

Journal publishers are essential partners in the dissemination of knowledge. Both publishers and researchers want academic papers to have the widest possible circulation. The current system of journal publication, however, limits the dissemination of knowledge. Better systems can be developed to meet both the goals of academic research and the economic interests of journal publishers.

The Academic Senate calls upon - and seeks partnerships with - those who publish scholarly journals to:

- 1. Seek only the copyrights necessary for first publication;
- 2. Concentrate on adding value to, rather than ownership of scholarship;
- 3. Pursue innovation to improve scholarly communication systems;
- 4. Avoid monopoly pricing;
- 5. Provide transparent financial information;
- 6. Enable ongoing access to the persistent scholarly record; and
- 7. Provide full information about peer review and copyright policies and processes.¹

Background

Faculty of the University of California, and their academic colleagues worldwide, are growing increasingly concerned about the rising casts and declining circulation of journals. For decades the cost of scholarly materials has escalated at rates exceeding the consumer price index (CPI). From 1986 to 2003 the unit cost for scholarly journals rose 245%, while the CPI rose 68%. Among the many factors behind this unsustainable trend, three are particularly problematic. First, the full transfer of copyright ownership to publishers gives them monopoly rights on this knowledge. Second, profit-maximizing pathtishers value revenue generation far above the spread of knowledge. Third, the bundled pricing of journals gives publishers undue power in their negotiation with universities. Rapidly rising subscription prices reduces academic access to research and severely handicaps universities' ability to maintain collections that support research, teaching, and the public interest. Escalating journal subscription prices are also limiting library acquisition of scholarly monographs, to the detriment of authors whose scholarship is best presented in longer publications than journal articles. As a result, the University, its faculty, and its libraries must continuously assess cost efficiency and effectiveness of scholarly materials as a factor in their selection.

It is essential for scholars, jibraries and publishers to partner for the larger public good. By so doing, they can establish and reaffirm values and practices that lead to equitable, sustainable, and flexible scholarly journal publishing.

Ideal Journal Publishing Practices

The Academic Senate calls upon those who publish scholarly journals to:

1. Seek only first publication copyright. To add value and make an economic return, publishers do not need full transfer of copyright ownership, as is current practice. Most business needs can be met by securing an exclusive right of first commercial publication, with requests for other rights such as foreign distribution and reprinting, made when and as necessary. Authors and their institutions then retain and take advantage of other copyrights as needed for research, teaching, content management and continued influence.

¹ As suggested, for example, in the companion to this whitepaper titled *Responding to the* Challenges Facing Scholarly Communication: Evaluation of Publications in Academic Personnel Processes http://www.universityofcalifornia.edu/senate/committees/scsc/cap.eval.scsc.12.05.pdf . SCSC white paper Fall 2005

- 2. **Concentrate on added value rather than ownership.** Publishers can and should maintain and extend peer review, editing, access, and other services that add great value to scholarly materials. These services can be priced and valued independently. Their addition does not require that the publisher own the content of an academic paper.
- 3. **Pursue technological and organizational innovation to improve scholarly communication systems**. Journal publishers have been, and continue to be, an important source of technical and organizational innovation.² We wish to encourage continued experimentation and innovation providing it meets contemporary scholarly needs, rather than simply providing the opportunity to raise prices. There are pressing needs for innovation in areas such as support for data sets, automated search, retrieval, and manipulation, online commentary, and other services that add to scholarship.
- 4. Avoid monopoly pricing. Universities, states and others will use all available means to sustain access, including anti-trust and other legal remedies.
- 5. **Provide transparent financial information.** Transparent finances will build trust among stakeholders in scholarly communication. Publishers, authers, and research institutions rely on one another for inputs, processes, and outputs of scholarly communication. Their actions influence each other's motivations and rewards. Therefore scholarly communication stakeholders must work together to reduce total costs and make improvements to scholarly communication systems. Financial insight and transparency is necessary in this pursuit, and should include identification of production costs and agreement on measures of value.

A worthy challenge for all stakeholders in the scholarly publishing community is to derive business models that simultaneously a) maximize the addience for scholarly publications; b) sustain consumer costs within a predictable and affordable range for the academic and public marketplaces; c) provide reasonable economic returns to owners and shareholders; and d) encourage reinvestment in creating greater efficiencies and effectiveness of publishing processes and infrastructure.

6. Enable the persistence of, and permanent access to the scholarly record. Rapid technological change, notably frequent change in digital storage regimes, generates a risk that academic papers will not be readable in the future. Publishers and other stakeholders need to work together to establish trusted repositories ensuring persistence of and ongoing access to the scholarly record.

Accountability

Aligning current practice with the shared goals of creating healthy, sustainable systems for scholarly communication is a difficult task that must a) acknowledge and draw from the successes of the scholarly publishing industry; and b) define, as suggested above, new standards and best practices against which to assess the pursuit. Fortunately, publishers, libraries, and scholars have an existing set of metrics and partnerships upon which to draw.⁴

² We count among these innovations the use of technology to increase production efficiencies and access and decrease time to publication, new business models including open access and "producer pays," and creative partnerships to leverage and best apply the contributions of all stakeholders in scholarly publishing.

³ See, for example, the antitrust analyses of mergers and pricing practices in the scholarly publishing industry from the Information Access Alliance.http://www.informationaccess.org/.

⁴ Recent examples include the COUNTER standards for usage statistics, the citation-driven "impact factor" metric for assessing the impact of scholarly journals, and the OpenURL and DOI schemes for persistent and flexible identification of journal articles.

The Academic Senate envisions building upon past practice to encourage the emergence of a sustainable scholarly communication system through specific actions such as: establishing a set of best-practice criteria for scholarly journals across all formats⁵; periodically evaluating and reporting the ways in which the journals to which the UC system subscribes meet the best practice criteria; recommending cancellations, subscriptions to competitors, or the launching of competing journals in those cases where journals consistently fail to meet best practices; publicly recognizing those journals that consistently do meet or exceed expectations and encouraging UC faculty to publish in them; and creating venues through which to discuss and harmonize these strategies and actions with those of other prominent universities and university consortia.

⁵ These criteria may include indices of price, use, quality of content and service, and the publisher's orientation toward copyright.

The Case of Scholarly Book Publishing

(Approved for Systemwide Academic Senate Review by the Academic Council on December 14, 2005.)

Discussion Statement

The scholarly book is in peril. The history and causes of the crisis are complex, but the effect is straightforward: in many fields opportunities for publishing scholarly books, including specialized monographs, have become scarce, even as they remain critically important to scholarly communication and a requirement for scholarly advancement. Analysis, planning, and action to address these problems must become a shared priority of authors, universities, and publishers.

The Academic Senate calls upon its own and other faculty authors, university administrators, libraries, commercial publishers, and university presses to:

- 1. Experiment with new publishing models that fully leverage scholarly editorial expertise and digital technologies;
- 2. Collaborate to make best use of each other's strengths while maximizing the efficient dissemination of scholarship;
- 3. Pursue and expand indicators of scholarly quality that acknowledge the continuing value of the printed format, but remove it as a tacit requirement for acceptable scholarship;
- 4. Rethink how university resources for book publishing are distributed; and
- 5. Provide subventions for non-tenured faculty to assist in the publication of appropriately peer reviewed, high quality scholarship.

Background

The University of California faculty, along with asademic colleagues throughout the world, are growing increasingly concerned about reduced and lost opportunities to share the results of research and scholarship for the progress of knowledge. The crisis involves all forms of scholarly publishing, but is especially acute for monographic works and for university presses, where declining sales are forcing presses to publish many fewer specialized monographs even though monographs remain essential for disseminating knowledge and establishing credentials in most humanities and many social science disciplines. There is no lack of diagnoses of the problem, which variously have analyzed the effect of high-priced databases and science journals on library budgets, increasing disciplinary specialization leading to smaller markets, decreasing subsidies for presses, and the changing demographies of higher education itself.¹

Diagnosis must now be complemented by systemic and strategic efforts to directly address the problems. As in other sectors of scholarly communication, the participants in scholarly book publishing must adopt values, practices, and partnerships that lead to equitable, sustainable, and flexible scholarly publishing that is well matched to the needs of academe.

Values and Practice

1. Experiment with new publishing models that fully leverage scholarly editorial expertise and digital technologies. Because the status quo is not working, we must analyze and experimentally reconfigure the components of book publishing. We encourage, for example,

¹ See, for example, Davidson, Cathy N., *Understanding the Economic Burden of Scholarly Publishing*, The Chronicle of Higher Education, October 3, 2003; Greenblatt, Stephen, A Special *Letter from Stephen Greenblatt [to the MLA]*, May 28, 2002. <u>http://www.mla.org/scholarly_pub</u>; and McPherson, James, *A Crisis in Scholarly Publishing*, Perspectives [American Historical Association], October, 2003.

http://www.historians.org/Perspectives/Issues/2003/0310/0310pre1.cfm.

experiments in journal-like distributed editing, and digital-first peer reviewed publication followed by print-on-demand. Moreover, we advocate for a move away from book/journal and print/digital dichotomies, toward approaches that produce high quality scholarship in a variety of formats for a range of audiences.

- 2. Collaborate to make best use of each other's strengths while maximizing the efficient dissemination of scholarship. Faculty, libraries, and scholarly book publishers must collaborate to make best use of each entity's strengths, leverage work that is already being done, and use the university's financial resources most efficiently. We encourage creative partnerships, such as the one between the California Digital Library (CDL) and UC Press, which is creating book series that are managed by faculty editorial boards, uses the CDL's eScholarship repository for digital publication, and leverages the Press's printing and marketing services.
- 3. Expand and pursue indicators of scholarly quality that acknowledge the continuing value of the printed format, but remove it as a tacit requirement for acceptable scholarship. The distinction between print and digital is blurring. Because print-on-demand technology makes it possible and cost effective to produce high quality print versions of rigorously reviewed digital-first or digital-only publications, print publication is no longer a meaningful surrogate for peer review and quality of imprint. Of course here, as elsewhere in scholarly publishing, peer review and other quality control policies and processes must be disclosed.² However, publication format need not be an issue in the dissemination of scholarship.
- 4. Rethink how university resources for monograph publishing are distributed. Direct and indirect support for scholarly book publishing historically including library book purchases, direct and indirect support to the university press, and scholars' editing services, among others needs to be considered within the overall rapidly evolving scholarly communication environment. The need to rethink support arises from factors such as: a) rapid changes in other sectors that affect book publishing, as when escalating journal prices constrain library book purchasing power; b) the need to encourage innovations called for above, such as library-press publishing partnerships; and c) calls for direct economic action, such as "first book" subventions to support non-tenured faculty. We urge an evaluation of the support needed to evolve healthy monograph publishing that takes into account the university's overall role in scholarly communication, and the implied cost sources, centers, and totals.
- 5. Provide subventions for non-tenured faculty to assist in the publication of appropriately peer reviewed, high quality scholarship. An effective form of university support is subventions to authors which can be applied to initial publication costs at an appropriate, post peer review, point in production.³ Subventions, including as startup packages for new non-tenured faculty, have analogs in the sciences, are well tested and well used in much of academe, and, in aggregate, will help ease the economic dysfunctions in university and scholarly press publishing.

² As suggested, for example, in the companion to this whitepaper titled *Responding to the Challenges Facing Scholarly Communication: Evaluation of Publications in Academic Personnel Processes* <u>http://www.universityofcalifornia.edu/senate/committees/scsc/cap.eval.scsc.12.05.pdf</u>.
³ See Ibid.

Scholarly Societies and Scholarly Communication

(Approved for Systemwide Academic Senate Review by the Academic Council on December 14, 2005.)

Discussion Statement

Most scholarly societies help enable the development and dissemination of new knowledge in their disciplines by publishing scholarly books and journals, and sponsoring research and educational conferences with great benefit to their members and the public. However, faced with rising costs of operating their organizations, some societies have begun pricing their scholarly works above what is needed for maintaining the publication to provide additional income for the society. For many societies the complexities of publication production have led to partnerships with profit-maximizing commercial publishers, often leading to further price increases. Rapidly rising prices inevitably create barriers to access and reduce the impact of the scholarly work.

In recognition of their critical and singular ability and self-proclaimed responsibility to advance knowledge within their discipline and to make this knowledge affordable to the widest audience, the Academic Senate recommends that scholarly societies facilitate access to scholarship by:

- 1. Reaffirming that development and dissemination of scholarly information is the or one of the most important purposes of the society;
- 2. Setting their publications policies to sustain publication and dissemination of knowledge, without requiring high or rapidly rising subscription prices to support other society operations;
- 3. Acquiring only those copyrights for scholarly works that demonstrably protect their investment in publication, while allowing scholars to retain rights which will facilitate other non-commercial use and dissemination of new knowledge;
- 4. Working collaboratively with universities and publishers to develop and adopt the most economical and technologically effective methods of publishing that also maximize quality, dissemination, and impact, including placing work in open access fora; and
- 5. Providing organizational and tinancial innovations, and transparent society and publication finances to promote efficient and economical resource use in scholarly communication.

Background

Societies are a critical contributor to and stakeholder in scholarship and scholarly communication. They have served the public well for centuries, beginning with learned societies in antiquity, and entering more modern history with such bodies as the British Royal Society (founded in 1660), the five académies of the Institut de France (all founded in the seventeenth and eighteenth centuries) and leading to more than 4,100 societies serving contemporary scholarship.¹ They have largely been led by academics and have fostered open and intellectual inquiry into virtually all fields of scholarship from aesthetics and archeology to zoology. Many of their deliberations have been made public through the societies' meetings and publications, and these efforts remain at the heart of the work of many societies today. These groups often sponsor education within their discipline for all levels of students and the public, and often act as advocates for public and private support of their discipline.

¹ As documented by the Scholarly Societies Project at the University of Waterloo Library, <u>http://www.scholarly-societies.org/</u>.

Societies were founded and run by scholars and still depend upon their intellectual contributions; for good reasons many outsourced their publication activities, yielding what should and could be successful partnerships that still support the societies' missions. While many societies published their own books and journals for centuries, in the past fifty years, the complexities of modern publishing and the focused academic interests of the society leaders led to increasingly close relationships between some societies and commercial publishers. Academics generally are responsible for founding and maintaining society journals and other publications, and organizing conferences whose scholarly work is often published. They usually write articles and books, referee and edit their colleagues' work, and often provide important society leadership. Publishers bring their organizational skills to producing the scholarly works, and achieve some important economies in printing and marketing among others.

Transfer of limited copyrights in scholarly material from author to society (via copyright transfer) can assist that part of the society's mission to spread and advance knowledge, which itself has been and could continue to be subsidized by other society activities when necessary. While full copyright transfer was a convention, it never was and no longer is required to fulfill the mission. Societies used to require that authors transfer copyright to them to facilitate production and dissemination, and some still do. Those in this latter group maintain control of their publications from solicitation and acceptance of scholarly work, to editing and coordinating refereeing of the material, to printing and distributing the final work. Because of the importance that they attribute to dissemination of scholarship, these societies sometimes produce this work at a financial loss that is borne by other society income sources such as membership dues or conference income. This model was followed by most societies from their inception, until the last thirty years or so when new methods of producing scholarly work began being adopted.

Copyright transfer is subject to abuse, particularly when societies partner with profit-maximizing commercial publishers and therefore cede control of the material, with resulting constraints on dissemination and impact. With the economics and effort of publishing, in some societies. scholars increasingly are transferring copyright to publishers and have little control on costs and prices. Faculty now write the material, edit it, referee it and then give it to publishers who sell it back to scholars and their universities, often making substantial profits and rapidly increasing costs of the publications. If there are any profits accruing from the books and journals, the societies usually share them, but the publisher controls the large parts of costs including corporate development and overhead over which the society has virtually no control, and often little knowledge. Publishers vary in their management of costs and profits. Some control costs very effectively and require only modest profits, while others follow more traditional corporate practices of charging what the market will bear and maximizing profit for shareholders, at the expense of their market which are faculty, academic institutions and the public. Societies similarly vary in the costs of and profits from their publications, across nearly the same range as commercial publishers.²

Societies are in unique positions to improve scholarly communication within their discipline by creating and fostering new publication methods. Through the enlightened leadership of scholars, societies can help define productive areas for advancement in their discipline, and can foster research and new thought by focused conferences and publications in developing topics that they feel are likely to benefit their members and society more generally. To enhance the availability of knowledge, societies can orchestrate the organization of information across publications where neither the individual scholar nor separate journal has the motivation or ability to do so. Societies should use their particular broad and powerful position as shepherds of their discipline's

² See Bergstrom, Carl and Bergstrom, "The Economics of Scholarly Publishing," 2001, for data and analyses that document this variation and the mix of society, commercial and society-commercial hybrid publishers that characterize several disciplines. <u>http://octavia.zoology.washington.edu/publishing/intro.html</u> (accessed 12/6/2005).

knowledge to not only encourage the development and organization of that knowledge, but to also encourage extending that knowledge through eased and improved access to it. Emerging technology can facilitate efforts by societies and their scholars to organize and enhance substantially their discipline's scholarship and its availability, tasks that societies are uniquely positioned to undertake.

There are many current society experiments and successes in evolving healthy scholarly communication to meet the needs of scholars, societies, and academe.³ All societies who have the advance of disciplinary knowledge as a priority goal should study and replicate these experiments, and create their own technological, organizational, and operational innovations in support of that goal.

Societies are accountable to their membership and to the academy for the ways in which they fulfill their scholarly communication mission. Transparency in business models that support publishing and other society efforts is a necessary part of this accountability. A transparent presentation of a society's finances will allow its membership to determine whether or not profits from publications are needed for the work of the society. The prices of access to new knowledge will be lowest if they are set to meet the core costs of production and dissemination of new knowledge, and are not inflated by the society's need for other income. A society might choose to curtail some of its activities if its members have to bear all the associated costs, rather than relying on its scholarly publications to defray some of these pon-publication costs. The societies must recognize that increased costs of publications slows the spread of knowledge that the societies themselves hold as a crucial societal function. We believe that societies should examine carefully their policies on publication costs and the use of that income, and place a very high value on spreading knowledge widely.

³ See, for example, the publication program of the Optical Society of America and its *Optics Express* open access journal, <u>http://www.opticsexpress.org/</u>: the American Anthropology Association's integrated knowledge portal *AnthroSource*, <u>http://www.anthrosource.net/</u>; or the series of "virtual" journals in the physical sciences that has been jointly developed by the American Institute of Physics (AIP) and the American Physical Society (APS), <u>http://www.virtualjournals.org/</u>.

The Case of Scholars' Management of Their Copyright

(Approved for Systemwide Academic Senate Review by the Academic Council on December 14, 2005)

Discussion Statement

We call upon UC faculty and scholars at other institutions to exercise control of their scholarship, and their institutions to support this behavior, in at least the following ways:

- 1. UC and other faculty members must manage their intellectual property in ways that ensure the widest dissemination of works in service to education and research. Specifically, and with the understanding that copyright is actually a bundle of rights that can be separately managed, we urge faculty to transfer to publishers only the right of first publication, OR at a minimum, retain rights that allow postprint archiving and subsequent non-profit use.¹
- 2. As part of copyright management, faculty shall routinely grant to The Regents of the University of California a limited, irrevocable, perpetual, worldwide, non-exclusive license to place the faculty member's scholarly work in a non-commercial open-access repository for purposes of online dissemination and preservation on behalt of the author and the public.²
- 3. The University must explore and develop support services to assist faculty to manage their copyright and disseminate their scholarship
- 4. University stakeholders must continue to partner, explore, and create a set of information management services including, but not limited to, alternative modes of publishing and disseminating information that allow broadest access at the lowest sustainable cost to the scholar, students and the public.

The management of copyright assigned to scholarly work is a crucial component of scholarly communication. The dysfunctions of scholarly communication – dysfunctions that already decrease the University of California community's access to scholarly materials and limit the dissemination and impact of UC's scholarship – can be addressed, in part, by scholars' active and explicit management of their intellectual property via copyright provisions in publication agreements. Copyright management, which can allow wider and timelier dissemination of research results and therefore increases the potential for impact on subsequent scholarship and societal progress, is largely within the purview of the individual scholar as author, but can be facilitated by the author's institution to support both individual and collective copyright management. The Academic Senate calls upon its members to actively manage their copyrights, and on the University to: a) provide assistance in scholars' retention of rights; and b) to establish and promote alternative modes of scholarly publishing that enable broad access at affordable costs. The Academic Senate also feels this call for action is appropriate for other scholars and institutions in the United States and abroad.

Background

The University of California faculty, along with academic colleagues throughout the world, are increasingly concerned about lost control and impact of its published scholarship. A significant part of the story is economic. For decades the cost of scholarly materials has escalated at rates far exceeding the consumer price index rate of inflation. This continuing inflation not only severely handicaps the UC libraries' ability to maintain world-class collections, but also, when coupled with

¹ See Appendix I for a list of actions to take.

² See *Proposal for UC Faculty - Scholarly Work Copyright Rights Policy,* a companion piece to this whitepaper, for a discussion of one possible implementation strategy for this recommendation <u>http://www.universityofcalifornia.edu/senate/committees/scsc/proposed.copyright.policy.scsc.12.05.pdf</u>.

the rapidly expanding volume of scholarship, results in UC scholars and students having access to a diminishing proportion of research relevant to their work.

The current economic dysfunctions simultaneously limit the audience for and impact of the scholarship produced by UC's faculty. When fewer institutions can afford the publications that carry the results of UC research, it will be read and used by fewer members of the research community. These factors combine to make this a critical issue for the University.

Having UC scholarship reach its potential impact is not limited to addressing economic dysfunctions. Scholarly communication systems must evolve to take advantage of new computer and communications technologies and must adapt their traditional functions to the expanding forms of scholarly material and an expanding audience reachable through global networks.

How faculty choose to manage their copyright is another essential contributing factor that determines whether scholarship reaches its potential impact.

The Role of Copyright

Among the primary goals and aspirations of the academy and its scholars are the creation and wide dissemination of new knowledge for the benefit of society.

U.S. copyright law was designed to "promote the Progress of Science and useful Arts" (U.S. Constitution, Article 1, Section 8, Clause 8). It is meant to encourage the work of inventors and authors through the granting of limited monopolies in inventions and original works of authorship, with the resulting possibility of commercial reward. In copyright law a balance was intended in which the prospect of commercial reward would be an incentive to produce new works, while time limits and other facets of copyright, such as fair use, would ensure that the societal benefit would reach its full potential despite the limited nonopoly enjoyed by the creator/author.

However, historically, the relationship between scholarship and copyright can be characterized differently:

- Commercial reward has rarely been a direct incentive for scholars. Rather, scholars desire that their work be widely disseminated and that it have an impact on society and subsequent scholarship. Scholars are evaluated and rewarded primarily based on that impact rather than the direct economic value of their work. Indeed, scholarship has been called a "gift exchange society" where scholarly products, and also the labor of reviewing and filtering them for quality, are given away.³
- Historically the interests of the disseminators, i.e. publishers, have been closely aligned with the authors. Indeed, early scholarly publishers were largely non-profit societies, i.e. the scholars themselves aligned within discipline-based cohorts. Non-profit and society publishers comprise a significant but shrinking proportion of current scholarly publishers.
- There were real "first-copy" costs (for soliciting, reviewing, and editing) and distribution costs that needed to be met for distributing scholarship in the form of print materials.

The relationship between copyright and scholarship has changed, for reasons that include the following:

• Digital and network technologies create efficiencies and modest reductions in first copy costs; for works that can be effectively used in electronic format – becoming the norm for scholarly journals and under active experimentation for monographs - they lower the marginal cost of distribution to very low amounts.

³ *Policy Perspectives: To Publish and Perish*, The Association of Research Libraries, the Association of American Universities, and the Pew Higher Education Roundtable, Special Issue March 1998, Volume 7, Number 4. <u>http://www.arl.org/scomm/pew/pewrept.html</u>.

Commercial enterprises have entered the scholarly publishing arena. By nature their • interests are driven in large part by the need to generate profit and meet shareholder's expectations. The well-documented and dramatic four decade trend of rising journal prices, a related "merger effect" as large commercial publishers seek growth and higher profitability, and a subsequent decrease in access to and impact of scholarship is the result.4

This new relationship therefore is characterized by the economic use of copyright and by the monopoly on distribution and use of material that copyright provides to its owner, who now usually is the publisher and not the scholar. However, technological advances can allow other disseminators and even individuals to have these benefits. Further, publishers who possess copyright ownership enjoy economic advantage such as charges to users of the material, and publishers can exercise great control over additional use of the material. The control and economic advantage to the publisher are especially strong when all copyrights are transferred from the author to the publisher.

In publication agreements scholars are often asked or required to transfer their copyrights. Seeking to maximize profits, and when they possess the monopoly that full copyright gives them for any piece of scholarship (for which there are not competing alternatives as would be the case in a "normal" consumer market), many publishers can and do select the highest price that the market will bear. Further, when creators give away copyright, they themselves no longer necessarily have the right to use nor permit the use of the work in a variety of ways that advance the research and education goals of the scholar and the academy. Barred uses may include classroom use, posting on class websites, relectronic reserve, deposit in an online repository such as UC's eScholarship Repository, or even deposit in long term preservation archives. Explicitly barred use, or lost potential use because of high access fees (subscription or purchase charges), decreases the utility and impact of scholarship and delays, decreases, or hides the scholar's contributions to the progress of knowledge.

However, copyright is a bundle of rights, and it is possible to achieve a balance between the goals of the publisher and the goals of sharing the material for the progress of scholarship and societal benefit. For example, faculty authors can transfer only the right of first publication to the publisher and to retain or share other rights including the right for classroom use, for non-profit distribution following first publication, for preservation by a university entity, or the right to create derivative works, among others. Evidence suggests that the retention of these rights need not seriously reduce publishers' economic and other incentives for first publication.⁵ Many academic organizations promote the importance of faculty management of their copyright and the ensuing potential for a balance of stakeholder interests.

⁴ These and other economic trends are presented in summary form at

http://osc.universityofcalifornia.edu/facts/econ of publishing.html, and other places. In-depth analyses are readily available, for example An Economic Analysis of Scientific Research Publishing, October 2003 by the Wellcome Trust, http://www.wellcome.ac.uk/assets/wtd003182.pdf

⁵Consider, for example, publishers who ask only for first publication rights, e.g. http://www.alpsp.org/htp_grantli.htm; http://www.firstmonday.org/guidelines.html#copy; and http://www.plos.org/journals/license.html; http://www.biomedcentral.com/info/authors/license, or the estimated 71 percent of publishers who permit deposit of some form of the scholarship in an open access repository (as tracked by the UK's Romeo/SHERPA project, (<u>http://www.sherpa.ac.uk/romeo.php?stats=yes</u>)

See Appendix III for examples from AAAS and others.

The Faculty Position on the Role of Copyright in Balancing Stakeholders Interests

Scholarly tradition and current University policy assert that copyright belongs to the faculty author in most cases.⁷ At present, it is primarily the individual faculty member who, through publication agreements and individual negotiations with publishers, is in a direct position to manage their copyright in ways that address their own and the academy's interests. The individual author's retention of key rights, or the transfer of only those rights necessary for first publication by a publisher, is therefore an influential individual action.

However, working with their Senate and the University, the faculty can also wield their influence and manage their rights collectively, granting, by default, a limited and non-exclusive set of rights to the Academic Senate; and thus the faculty will guarantee and ease non-commercial use and widest possible access to research results.⁸

Meanwhile, the University is in a position to assist individual action and leverage them collectively, for example, by building supporting tools and infrastructure to manage for the long term the products of UC's scholarship, developing new forms of publishing and online access, and providing digital preservation, among others. Indeed several tools, such as the *eScholarship Repository*, are already available for use. The University of California is poised, through the Office of Scholarly Communication, the California Digital Library, the campus libraries, and others, to extend and add to these information management services thereby enabling new forms of publication, long-term archiving, classroom use, innovative impact analysis and the like. The ultimate benefits, and in some cases the viability of such services, will be enhanced if a set of appropriate and non-exclusive rights are granted from authors to the University.

For these reasons, the University of California Academic Senate strongly urges its members and scholars throughout the world to begin improving accessibility of scholarly works to a wider public by retaining greater control of copyrights to their material.

Appendix I. Management of Copyright1. Retain Rights

• <u>Keep basic copyright while transfering limited rights to the publisher</u>: Techniques and sample publishing agreements to transfer limited rights to the publisher are available at http://osc.universityofcallfornia.edu/manage/keep_copyrights.html.

Or

• <u>Transfer copyrights but reserve some rights</u>: Techniques and language to modify the language of the publishing contract to transfer non-exclusive rights to the publisher are available at http://osc.university.ofcalifornia.edu/manage/transfer_copyrights.html.

Or

• <u>Submit work to publishers with enlightened copyright policies</u>: Many publishers are liberalizing their policies to help achieve a balance between their interests and those of their authors.

⁷ See Appendix.II for a summary of UC policy.

⁸ See Proposal for UC Faculty - Scholarly Work Copyright Rights Policy, a companion piece to this whitepaper, for a discussion of one possible implementation strategy for this recommendation <u>http://www.universityofcalifornia.edu/senate/committees/scsc/proposed.copyright.policy.scsc.12.05.pdf</u>

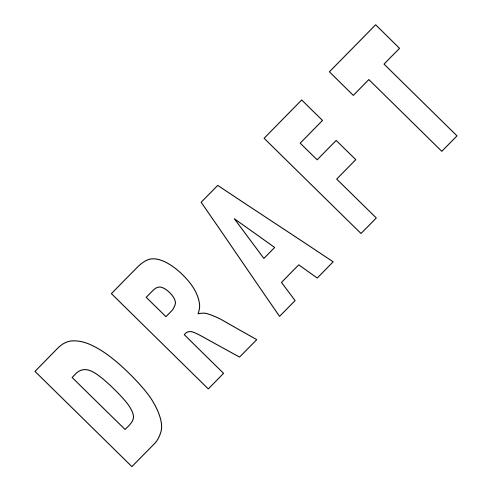
⁹ Exemplary policies from the Association for Computing Machinery (<u>http://www.acm.org/pubs/copyright_policy/</u>), the Association of Learned and Professional Society Publishers (<u>http://www.alpsp.org/lplcense.pdf</u>), and others are available at <u>http://www.earlham.edu/~peters/fos/lists.htm#statements</u>. A directory of publisher policies regarding preprints and postprints is available at <u>http://romeo.eprints.org/</u>.

2. Leverage Retained Rights

• <u>Deposit a preprint or postprint of your work in an open access repository</u>, such as UC's eScholarship Repository (<u>http://repositories.cdlib.org/escholarship/</u>)

And

<u>Grant non-exclusive rights to others to use your work:</u> for example by attaching a creative commons "attribution license" to your work (see http://creativecommons.org/about/licenses/).



Appendix II. Current UC Copyright Policy

Ownership of copyrighted works created at the University is determined by the 1992 Policy on Copyright Ownership:

"This Policy is intended to embody the spirit of academic tradition, which provides copyright ownership to faculty for their scholarly and aesthetic copyrighted works, and is otherwise consistent with the United States Copyright Law, which provides the university ownership of its employment-related works. Pursuant to Regents' Standing Order 100.4, the President has responsibility for all matters relating to intellectual property, including copyrights in which the University is involved." -- Preamble from the University of California Policy on Copyright Ownership, 1992.

Within UC, the Provost's Standing Committee on Copyright "Monitors the copyright environment and makes recommendations to the University on how to align University copyright policy and management with the goals of the academic mission in the context of continuous and rapid change" (http://www.ucop.edu/copyright/, accessed 9/28/04).

Appendix III. Samples of Principles for Copyright Management in Higher Education

The Tempe Principles¹⁰:

"The academic community embraces the concepts of copyright and fair use and seeks a balance in the interests of owners and users in the digital environment. Universities, colleges, and especially their faculties should manage copyright and its limitations and exceptions in a manner that assures the faculty access to and use of their own published works in their research and teaching."

The AAAS¹¹:

"...scientists, as authors, should strive to use the leverage of their ownership of the bundle of copyright rights, whether or not they transfer copyright, to secure licensing terms that promote as much as possible ready access to and use of their published work."

Zwolle Principles¹²:

Balancing stakeholder interests in scholarship friendly copyright practices.

Objective

To assist stakeholders—including authors, publishers, Ibrarians, universities and the public—to achieve maximum access to scholarship without compromising quality or academic freedom and without denying aspects of costs and rewards involved.

Principles

- 1. Achievement of this objective requires the optimal management of copyright in scholarly works to secure clear allocation of rights that balance the interests of all stakeholders.
- 2. Optimal management may be achieved through thoughtful development and implementation of policies, contracts, and other tools, as well as processes and educational programs, (collectively "Copyright Management") that articulate the allocation of rights and responsibilities with respect to scholarly works.
- 3. Appropriate Copyright Management and the interests of various stakeholders will vary according to numerous factors, including the nature of the work; for example, computer programs, journal articles, databases and multimedia instructional works may require different treatment.
- 4. In the development of Copyright Management, the primary focus should be on the allocation to various stakeholders of specific rights.
- 5. Copyright Management should strive to respect the interests of all stakeholders involved in the use and management of scholarly works; those interests may at times diverge, but will in many cases coincide.
- 6. All stakeholders in the management of the copyright in scholarly works have an interest in attaining the highest standards of quality, maximizing current and future access, and ensuring

¹⁰ The result of a meeting held in Tempe, Arizona, on March 2-4, 2000. Sponsored by the Association of American Universities, the Association of Research Libraries, and the Merrill Advanced Studies Center of the University of Kansas. <u>http://www.arl.org/scomm/tempe.html</u>.

¹¹ Seizing the Moment - Scientists' Authorship Rights in the Digital Age, The American Association for the Advancement of Science, 2002. http://www.aaas.org/spp/sfrl/projects/epub/finalrept.html

¹² Endorsed by attendees during a December 2002 conference in Zwolle, the Netherlands, hosted by the Dutch SURF Foundation and by the UK's Joint Information Systems Committee (JISC). <u>http://www.surf.nl/copyright/keyissues/scholarlycommunication/principles.php</u>.

preservation; stakeholders should work together on an international basis to best achieve these common goals and to develop a mutually supportive community of interest.

7. All stakeholders should actively promote an understanding of the important implications of copyright management of scholarly work and encourage engagement with the development and implementation of Copyright Management tools to achieve the overarching objective.

Cornell (2005)

The Senate strongly urges all faculty to negotiate with the journals in which they publish either to retain copyright rights and transfer only the right of first print and electronic publication, or to retain at a minimum the right of postprint archiving.¹³

CSU, SUNY, CUNY (1997)

"...through creative reallocations of rights, members of the university community can use copyright protection to better serve the wide range of dynamic interests associated with the growth and sharing of knowledge, which are the core of a university's mission -- all in direct furtherance of the Constitution's provision that copyright should promote the Progress of Science and the useful Arts."¹⁴

¹³ Cornell Faculty Senate Resolution on Scholarly Publishing, passed 11 May 2005. <u>http://www.library.cornell.edu/scholarlycomm/resolution.html</u>.

¹⁴ Ownership of New Works at the University: Unbundling of Rights and the Pursuit of Higher Learning (CSU, SUNY, CUNY, 1997).

Proposal for UC Faculty – Scholarly Work Copyright Rights Policy (Approved for Systemwide Academic Senate Review by the Academic Council on December 14, 2005.)

In order to facilitate scholarly communication and maximize the impact of the scholarship of UC faculty¹, the Academic Council's Special Committee on Scholarly Communication (SCSC)s proposes that the Academic Council consider the following recommended UC copyright policy change:

"A faculty member's ownership of copyright is controlled by the University of California Policy on Ownership of Copyright [http://www.universityofcalifornia.edu/copyright/.]. University of California faculty shall routinely grant to The Regents of the University of California a limited, irrevocable, perpetual, worldwide, non-exclusive license to place the faculty member's scholarly work in a non-commercial open-access online repository. In the event a faculty member assigns all or a part of the faculty member's copyright rights to a publisher as part of a publication agreement, the faculty member must retain the right to grant this license to the Regents."

Faculty can opt out of this agreement for any specific work, or invoke a specific delay before such work appears in an open-access repository. The Regents will direct the Academic Senate, in collaboration with UC Administration, to establish support and control mechanisms for the use of scholarly work covered by this policy. No income will accrue to the Regents, the University or the Academic by this non-exclusive copyright license.

SCSC understands that such a proposed policy change would require broad discussion and adoption by the Academic Assembly before submission to UC Administration and the Regents for consideration.

(Some comments offered by SCSC that may be helpful to reviewers.)

1. Terminology-- If a copyright owner retains ownership, he or she "licenses" another to exercise some/all of the copyright rights granted by statute. If a copyright owner "assigns" a copyright to another, ownership of the copyright is transferred to the other party. It is possible to assign ownership of copyright but to reserve a license to use the work in a way specified by a publishing agreement. From SCSC's perspective, the ideal is for the faculty to retain copyright owner reserving the right during that period of time to license the right to another body for the kind of publication we envision.

2. License – an earlier draft policy called for faculty to "assign" to the Academic Senate a limited right to place their work in a scholarly repository. A better route would be to grant a "license," not an assignment, since a license allows the author to continue to own the copyright. Additionally, it is preferable to grant the license to a legally recognized body, such as a corporation. Thus, the current policy proposal calls for the faculty to reserve a license to The Regents (i.e., the corporation), with the intention that The Regents will ask the Senate to oversee the placement and use of the scholarly work in an open access repository. As an internal matter, a policy could be adopted clarifying that The Regents is authorized to do only X, Y, and Z with the licensed material.

3. Opt-out statement—SCSC was divided on whether or not to include the opt-out option. Its inclusion would give faculty greater flexibility in handling their scholarly work, but perhaps makes a weaker statement by the UC faculty about the importance of retaining copyright. An intermediate stance might be to have a body (a committee of the Senate?) designated to decide whether the policy can be waived and internal guidelines/standards for such waiver could be adopted. These would be available to anyone who asked for such and might strengthen the faculty's leverage more than simply allowing the faculty to opt out.

¹ This proposal follows and implements the intent and specific principles contained in *Responding to the Challenges Facing Scholarly Communication: The Case of Scholars' Management of Their Copyright* http://www.universityofcalifornia.edu/senate/committees/scsc/copyright.whitepaper.scsc.12.05.pdf