



SCHOLARLY COMMUNICATION INSTITUTE 8:

EMERGING GENRES IN SCHOLARLY COMMUNICATION

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The following essay attempts to represent and synthesize the rich discussions of SCI 8, the eighth gathering of the Scholarly Communication Institute at the University of Virginia Library, especially the many original insights that emerged into the ways technology transforms the process of creation, dissemination, stewardship, use, and above all, reception of humanities scholarship.

Additional materials generated during SCI can be found at http://www.uvasci.org/archive.

THE NEED FOR NEW MODELS OF SCHOLARLY COMMUNICATION

Current print-based models of scholarly production, assessment, and publication have proven insufficient to meet the demands of scholars and students in the twenty-first century. In the humanities, what literary scholar James Chandler calls "the predominating tenure genres" of monograph and journal articles find themselves under assault from a perfect storm of major dislocations affecting higher education. Publishers are struggling to remake business models that are failing. Libraries strain to keep up acquisitions of print materials as the supply of and demand for digital publications escalate. The reliance of faculty on tenure and review models tied to endangered print genres leads to the disregard of innovation and new methodologies. And mobile, digitally fluent students entering undergraduate and graduate schools are at risk of alienation from the historic core of humanistic inquiry, constrained by outmoded regimes of creation and access.

SCI 8 Approach

The goal of SCI 8 was to reimagine the ecology of scholarly publishing, based on careful assessment of new genres, behaviors, and modes of working that have

strongly emerged. The Institute focused on new genres in humanities scholarship because they are leading indicators of an information ecosystem that centers around digital evidence, digital authorship, digital dissemination, and digital use. We use the term "genre" loosely to comprehend those natural forms of discourse and favored formats of presentation that carry the weight of scholarly research and dissemination nowadays. In particular, we looked toward authoring and publishing activities in which the expressive capabilities of a particular digital technology or set of methodologies are well-suited to the goals of scholars and to reception by their intended audiences.

As in other areas of publishing—music, movies, television, fiction, journalism—the Web has effectively unbundled the production and consumption of scholarship. It has also simultaneously undermined publishing business models and library budgets, radically altered reading habits, and called into question the core assumptions upon which scholarship is assessed and validated. How will the fundamental processes of scholarly production—research and analysis, publication and dissemination, stewardship, and use—realign themselves in a digital environment? How will scholars go from digital evidence to digital publication? What would be an appropriate division of labor among the actors in scholarly communication: scholars and learned societies; libraries, museums, archives; publishers; technologists; higher education administration and funders; and the multiple audiences and users who desire online access to humanities content? Where are these new communities constituted, how, and by whom?

We explored these issues in several stages, which included:

- scanning trends both within higher education and beyond that are shaping scholarly discourses;
- examining the processes of scholarly communication as currently constituted, as well as actors involved and the roles they play;
- presenting working examples of new-model scholarship by participants;
- reflecting on these topics from the perspective of the critical engines sustaining scholarly communication—libraries, publishers, technologists, academic administrators, and funders.

To date, extensive work has been accomplished in modeling new forms of scholarly communication. Thus, SCI's strategy was to assemble leading scholars from a variety of disciplines who have made significant and sustained contributions to the articulation of those models, as well as librarians, publishers, technologists, academic administrators, and funders equally committed to forging a path forward. As a group, SCI 8 participants brought a record of imaginative and adventurous approaches to the full spectrum of scholarly production—research and interpretation, publication and dissemination, curation and stewardship, use and reuse. Above all, they had considerable experience in new-model communication and intimate knowledge of the expressive capacities of new technologies in the context of the humanities.

Environment: Trends, Pressure Points, and Opportunities

The emergence of publication models is tightly bound with the environment in which they originate. Scholarly production works through a feedback loop that both responds to environmental forces and shapes them. Participants identified the major factors they perceive as decisive, both in the world at large and within higher education. A summary of their responses to a preconference survey on environmental trends can be found at: http://www.uvasci.org/archive.

Higher education is forcefully affected by a social and economic climate marked by:

- commercially driven technology developments;
- relentless globalization accelerated by technology;
- IP regimes increasingly negligent of the public trust the Founders placed in higher education and libraries, museums and other memory institutions; and
- an economic climate that has produced a major contraction in publicsector investments, especially in the long-term infrastructures that seed innovation and promote knowledge creation.

These influences reverberate in higher education in numerous ways large and small: increased financial pressures in all departments; burgeoning and at times conflicting missions within universities (particularly within straitened public institutions); and greater societal and economic rewards for science, technology, professional, and instrumental knowledge as a whole. SCI 8 participants pointed out that, in contrast to the humanities, basic sciences are well funded, in large part because society has an implicit trust that basic science leads directly to applied science, engineering, and technology, and hence to benefits for society as a whole. Whether that trust is warranted or not, this perception stands in sharp contrast to the public's view of "basic humanities" and the benefits they confer upon citizens. Some humanists insist that this distinction is justifiable because humanistic knowledge does not and should not have instrumental value. Others believe a significant part of the work to be accomplished through new scholarly communication modes is precisely to strengthen the bond between scholarship and the public good. This division was very evident at the Institute. That said, the majority of our participants saw digital technologies as crucial to the humanities precisely because they can open up scholarship to broader audiences. The digital could make the intrinsic value of humanities more visible both within higher education and outside of it.

What is at stake for the humanities was well summarized by <u>Steven Wheatley</u>, vice president of the ACLS, when he referred to our present state as "the best of times and the worst of times." Higher education is suffering economically and politically. Opening up humanities through new production and dissemination technologies is the most promising way to re-engage the public and demonstrate the value of scholarship. Wheatley noted three specific trends with potentially negative effects on humanities scholarship, each of which could be addressed—and turned to humanities' benefit—by deeper engagement with digital technologies and new scholarly communication models now evolving.

The first trend Wheatley noted is the inevitable shrinking of the number of university presses over the next decade, together with a shrinking percentage of long-form/monograph manuscripts that make it through the needle's eye of print-on-paper publications. This problem is exacerbated by the inevitable ratcheting up of standards for hiring, promotion, and tenure in humanities disciplines as a consequence of increasing numbers of applicants relative to available positions. Both of these problems can be addressed by embracing new forms of scholarly publishing and scholarly validation.

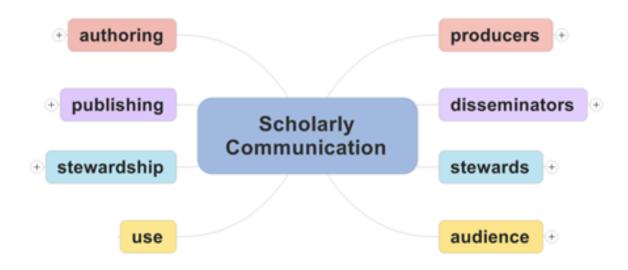
The second trend Wheatley pointed to is the decreasing age of the academic workforce as there are increasing retirements through buyouts and other economic pressures. Senior faculty are being replaced by fewer tenure-track hires. "For those young scholars fortunate enough to win tenure-track positions there will be an ever-longer interval between PhD and tenure-track appointment." And these young scholars will be increasingly either "born digital" or "raised digital." It is critical to create ways to engage scholars who are vital actors in research and education but who are not entering fast-disappearing tenure-track positions, and who may in fact conceive of themselves as "alternative academics." The horizontal vector of scholarly communication enabled by the Web is a powerful conveyor of this kind of engagement, and scholarly societies provide ideal hubs for these alternate scholarly engagements.

The third trend is the ubiquity of mobile computing and app-conditioned delivery that will challenge academic and library practices built around stationary Web-browser based desktop usage. At the same time, university budgets, especially among the public institutions, will be outpaced by the growth of this challenge. This means that higher education must make peace with new techno-business models and even more: they must take advantage of these consumer-and student-friendly trends for educational purposes, or risk being marginalized. We must put our intellectual and cultural resources where our students are, not where we wish them to be. Indeed, the so-called consumerization of computing and communication technologies, seen by some as a threat to the authority of higher education, is perhaps the most promising development of all; for it creates a potential for increased demand for humanities scholarship, with multiple sites for delivery, customization, and reuse.

The more deeply participants reflected on the work they and others have accomplished with new technologies, the greater seemed the likelihood that these new models of communication would indeed extend the reach of humanities scholarship, demonstrate the value of this work for society, and even address some of the economic challenges higher education faces by leveraging economies of scale to enable shared infrastructure. This perception came into sharper focus during an in-depth exploration of the reconstitution, in the digital realm, of familiar modes of scholarly communication, known to us through the tenure-standard models of monograph and journal article.

SCHOLARLY COMMUNICATION: PROCESS AND PEOPLE

Participants looked at scholarly communication as *process* and *people*, using a reference model created for discussion by SCI director <u>Abby Smith Rumsey</u>. Rumsey's rough-and-ready reference model was designed to stimulate understanding and cross-community conversation by parsing the process of scholarly communication into elements in play without regard to their specific implementation, analog or digital—the monograph, the blog, the multimedia short-form argument, and so forth.¹



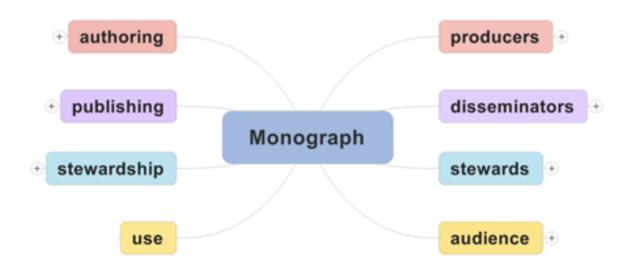
Process

The well-integrated process of scholarly production can be disaggregated into four constituent areas of activity—authorship, dissemination, stewardship, and use. Each has implicit, often unexamined relations and interdependencies embedded in the technologies they use, be it print on paper, moving image on screen, audio on digital playback equipment, or other modalities. It has been widely remarked that the stunning changes wrought in publishing industries by the Internet, particularly by Web 2.0 technologies and behaviors, amount to an unbundling of these four essential activities. All elements are being reworked under the influence of digital technologies: authoring, peer review, publishing and dissemination, supporting business models, even how we read, what we pay attention to, and who our audience may be.

Most senior faculty were acculturated to reference models of the monograph and the journal article during their graduate training, taking for granted the dependencies of these models on existing technologies and enabling

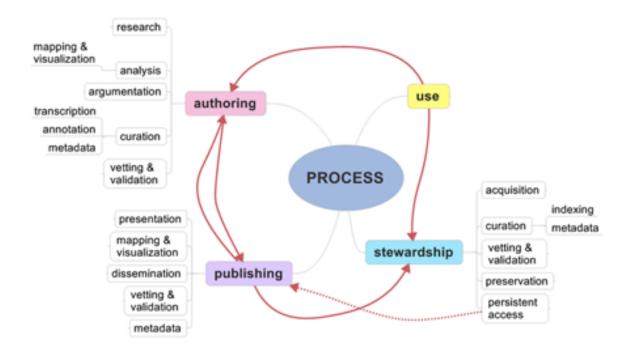
¹ "A reference model seeks to provide a common semantics that can be used unambiguously across and between different implementations...." See SOAReferenceModel-Generic-rev1 05-03.ppt at: http://www/oasis-open.org.

infrastructure (including presses and libraries). These models calibrated their expectations of scholarly communication and career development and generated a community of peers with a shared mental map for scholarly production.



Scholars sitting down to write a monograph, publishers considering the submission of a manuscript, reviewers evaluating it, librarians deciding about acquisition and preservation of the title, and students and faculty reading it—all share a common understanding of markers of excellence and inadequacy.

There is no such shared reference model for digital publications. Digital scholarship is plagued with problems of incomplete, conflicting, or merely absent expectations on the part of all key actors. What does the digital authoring process look like, and how does an author get started? What does peer review of a multimedia long-form manuscript entail? What is an appropriate publishing venue for such a work of scholarship—a monograph, a journal, a website, a podcast? And perhaps most importantly, who is the audience for this work, how are we to read this work, understand its import, and use it in further research? SCI participants reported that the lack of common understandings even for such familiar genres as blogs and websites is still a serious impediment to scholarly production, publishing, library acquisition and stewardship, and recognition and use by peers. The heuristic value of a widely-accepted new reference model would be tremendous at this stage of development. In order to build an appropriate model for digital productions, we looked deeper into the production process to unearth hidden assumptions about value and quality that lie beneath familiar surfaces.



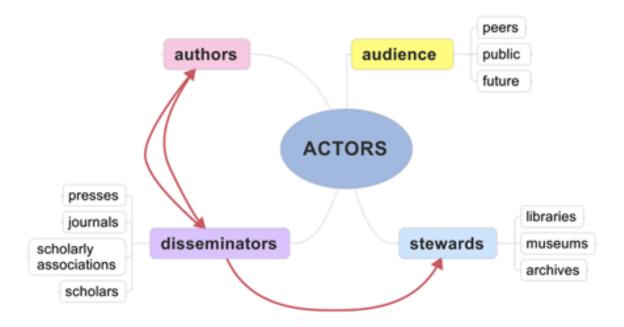
None of these activities are completely distinct from one another. The authoring process incorporates use of sources, just as the review process, formalized in peer review, also exists in acquisition by libraries, use by readers, and citation and footnotes in authoring. In the digital realm, these activities are more intimately intertwined. A brainstorming session by participants enumerated the multiple elements that fall under each rubric. They produced a large and largely overlapping set of activities, so richly detailed that it came perilously close to instantiating what historian Peter Bol called the perfect 1:1 scale map, with absolute correspondence between the abstractions of the map and the reality on the ground.² Given the preponderance of scholars in the meeting, the group was able to identify a larger number activities falling under authorship than the other three activities combined. But it seems likely that if a roomful of librarians or publishers, for example, were asked to brainstorm the same map, the list that would swell in the categories of dissemination, stewardship, and use.

People

Communication happens within a community, at the same time it can be said to constitute a community. Given that the nature of community building and sustaining has been so deeply affected by new information technologies, it is hardly surprising that the deepest disruptions to the humanities status quo has been to the constitution of scholarly communities of discourse.

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² The full list of constituent elements can be found at : http://tinyurl.com/SCI8Activites.



New-model scholarly communication is enacted by individuals and groups playing multiple and overlapping roles. As recently as 20 years ago, authors were authors, publishers were publishers, and libraries were libraries. They were highly differentiated in professional terms. But this was hardly always the case. When we now behold faculty building their own digital research collections and libraries publishing primary sources online, we are witnessing activities that hearken back to nineteenth-century collecting, critical editing, and facsimile publishing that were themselves spurred by the growth of dissemination in an era of mass production of books.

Authors (also known as content producers in the Web environment) serve as their own primary publishers and disseminators, through blogging, website production, annotation of sources, publication of metadata, and so forth. At the same time, given the ephemeral nature of digital resources, producers must also act as the first-order stewards of their own content, choosing formats and standards which are widely supported to create content that is in essence born archival and is thus more likely to persist.

Publishers and disseminators now include not only traditional university presses and scholarly journals, but numerous self-organized communities on the Web that create content and disseminate it and otherwise create markets for it through links. Libraries, archives, and museums are routinely publishing their holdings online. In many cases this amounts to republication or re-issuing content in new formats.

Stewards—those who take responsibility for the transmission of knowledge from one context to another and one generation to another—are most often institutions. But there are and always have been individuals who collect, curate, preserve, and provide access. This stewardship role becomes increasingly significant in the digital environment. The growing numbers of

scholars who are themselves building online collections tend to be aware of the critical choice of formats and standards.

That said, one librarian remarked ruefully that most scholars understand the need for stewardship when it is almost too late to do anything about it. Stewardship rarely succeeds by accident and serendipity. As creators are becoming the critical link between knowledge persistence and loss, it is imperative that scholars work with librarians to create scholarship in bornarchival or preservation-friendly formats. In particular, the demands of digital curation and preservation present opportunities for learned societies to collaborate with librarians and technologists to develop guidelines and best practices for creation of preservation-friendly documents and digital objects by their members. Such groups should also engage in promoting legal and economic regimes that encourage rather than impede digital preservation.

Users in the Web 2.0 universe are each and every one potential authors and publishers as well as readers. They are also local stewards, collecting and curating content on their hard drives. And through the mere acts of linking, downloading, citing, tagging, retweeting, and voting on likes and dislikes, they are reviewers. On top of the interactivity inherent in read/write behaviors, use in the digital realm is altered by the dynamic of mobile computing. The consequences for research and learning are profound. So, too, are these effects on the shaping of genres.

Dynamics of Use

Before looking at the online genres that have emerged as favored among humanists, it is important to understand the ways that the new information environment shape the expressive powers of communication technologies and their reception.

Use patterns matter for scholarship in the simplest terms possible: without demand for use of a scholarly resource, it will be challenge to ensure the sustainability of it. At risk is a stable and reliable record of scholarship over time. It is crucial that each scholarly resource find its audience, in the present and over time. (In the case of novel genres such as blogs, it may be more correct to say that they create their own audience.) Part of the so-called crisis in scholarly publishing is a failure in use and the disappearance of audience. There is a serious mismatch between supply and demand in humanities publishing: an oversupply of excellent scholarship in specialized monographs, with little corresponding demand for them. This fundamentally economic problem jeopardizes the humanities. What happens when a scholar is told that her book-length manuscript has been recommended by reviewers for publication, yet was turned downed by publishers because it would "present too much financial risk in the current economy," as happened to Kathleen Fitzpatrick? How do we develop new economies that advance humanities scholarship rather than smother it in the cradle?

While such new economies have important financial aspects, the most important economy is that of increasingly scarce time and attention of scholars

and students. The key to building demand for humanities scholarship must lie in the careful alignment of an author's aims, the ability to find the appropriate audience, and the power to capture and hold their attention.

The aims of scholars—the impetus and goals that move scholars to create—have received the most attention and funding so far in this world of emerging scholarship. Authors will choose one genre over another based on a match between the goals of the scholar and the genre's expressive capacity—the monograph for a long-form argument, a journal article for research results, a blog for speedy publication of work and thinking in-progress.

Far less attention has been paid by scholars to audience, and this holds danger for the humanities. <u>David Brownlee</u>, editor of the <u>Journal of the Society of Architectural Historians</u>, noted "the transformation of the audience is more significant at this point than the transformation of scholarship." Yet the audience figured little in discussions among scholars at SCI, except in the context of pedagogy. However, securing the attention of users is a significant concern among publishers, who articulated a keen understanding of the reader and content user as autonomous, self-directed, and demanding.

The Web's exacting economies of attention suggest that humanists should be thinking more deeply about who their audience is, why their readers should care about what scholars create, and above all, why users should pay attention to this work and not something else. The authoring process must begin with clear aims in the mind of the author, but a scholar's primary concerns should include usability, clarity of presentation, and compelling value to users, as well, for users—be they students or fellow scholars—have scarce time to ration among many competing demands on their attention. To date, scholarly communication has privileged authors over audience, and many scholars carry this presumption of precedence into the digital realm. Extensive tool development, visualization interfaces, and customized, siloed databases are developed with the author's aims in mind first and foremost, not necessarily the reader's ease of use and re-use. As Don Waters of the Mellon Foundation pointed out, scholars make assertions of value to a community when building costly data bases. These assertions can only be tested in use by others. To date, far too little attention has been paid to interoperability and reuse to assess the merit of these claims.

Mind the Gap: Aims, Audience, Attention

<u>Aims</u>

Consideration of significant differences between the current publishing environment and that of 20 years ago can help us discern which genres are likely to work best for humanities scholarship. The first gap between then and now lies in expectations about the final aims and products of scholarly communication. Digital communication favors an ongoing process of research, analysis, and dynamic presentation over a final and fixed product. This favoring of process over product creates a fundamental challenge for the review of newmodel scholarship, as well as difficult decisions about which version of a

scholarly work to publish, in the formal sense, and preserve because to some degree, these works are always in flux. Modes of learning are also shifting in favor of dynamic and interactive over fixed and unidirectional broadcast. In the classroom we see the emergence of learning through the performance of research and scholarship, rather than vertical transmission of knowledge from one expert to many students. This dynamic undermines existing structures and cultures of knowledge and authority in humanities; and it poses new challenges to the organizations and funding streams that support them. As several publishers agreed, "digital is central to the future of scholarly publishing" and "the future itself is one of permanent transition."

Audiences

Audiences, too, have radically shifted. A digital content user expects to be active, not passive. Moreover, communities of users are more often open and self-organizing than closed and self-replicating. Most SCI participants welcome these changes in audience behaviors and expectations; they see the openness of new audiences as crucial for building wider constituencies for the humanities. Yet there is a conundrum: establishing expertise and building a career in higher education still follows a vertical path upwards. The academic audience so far remains a self-replicating circle of fellow scholars whose training seeds only incremental variations from generation to generation. Even among scholars who identify themselves as digital humanists, much scholarly work is by necessity specialized and grounded in a vast corpus of expert knowledge. The general desire of digital humanists may be to expand the reach of this expert knowledge beyond a closed community of scholars, but they are not often themselves public scholars. Inevitably when an author aims to appeal to several audiences with differing expectations at the same time, it becomes harder to hit any mark, let alone the all of them. Which audience will take precedence—fellow specialists or the general public? Or if that dichotomy is itself a false distinction in the digital environment—as seems likely—what does it mean for scholarly communication?

Attention

Not only are the nature and composition of audiences changing, but so too are the means by which their attention is captured. Scholars know how to achieve impact among peers in traditional scholarly communication modes, just as they know how to measure that impact; each discipline has well-defined protocols and metrics for measuring scholarly success. But in the digital environment, they must capture people's attention in an environment in which there is aggressive competition for attention on the Web. We know we need to capture our students' attention in motion, not just in the classroom. And other scholars are equally subject to competing demands on their time and attention. Above all, the new information environment privileges the reader, not the author.

Publishers and librarians are aware of these fundamental challenges to their enterprise. This gives them a potentially powerful role to play in effective scholarly communication. As a rule, publishers and librarians place much greater emphasis on readers as autonomous beings rather than as extensions

of scholars and their interests; they know the choice of content delivery time, place, and mode now rests firmly in the hands (and hand-held devices) of the readers. Norm Hirschy, editor of music books at Oxford University Press, provocatively asked if humanities scholars are ready to see their audience not as readers of books, but as users of content. For the new audience expects not only to read, but to listen, to look, to download and re-use. Editors also noted the contradictory expectations of scholars they see: in the author mode, they expect traditional publishing forms for their manuscripts; in the reader/user mode, they expect content to be accessible online, easily searched, and repurposable when possible.

Genres

SCI scholars are working with a rich palette of new technologies, new forms, new collaborators, and new audiences. Their work ranges from sustained experiments in participatory knowledge creation to database building, curation of both digitized and born digital resources, editing and re-issuing of performances, experiments in open access and open peer review, development of algorithms and other forms of machine-reading practices to aid in research, production, and review, deep collaboration among archives, scholars, programmers, presses, and other actors. Taken together, these projects include major trends now visible in the digital domain. Most crucially, each of these efforts undergo multiple stages of design and development, implementation, assessment and redesign, and various attempts at persistence and stewardship. Homing in on four significant and distinct areas of activity, participants synthesized what they had learned from their experiences, with particular attention to the factors of aims, audience, and attention explored above. These four areas of activity were:

- 1. digital collection building;
- 2. scholarly blogging and informal communication;
- 3. multimedia argumentation; and
- 4. sound studies.

The first two areas have been in lively and often well-funded development for a decade or more. The third and fourth areas are less well worked through, though they stand to gain the greatest advantage from multimedia affordances. In each genre, scholarly production in digital media raises fundamental issues about scholarship in non-textual media.

Collection Building

Scholar-driven digital collection building typically originates in the need to prepare data for use in a digital research environment—either born-digital data or digitized analog sources. Steven Wheatley characterized research as the creation and curation of knowledge, that is, the effort taken to make data and digital objects useful, discoverable, sustainable and authentic. In the print-on-paper environment, the curation of many research resources, such as manuscripts, books, musical scores, and maps, has been undertaken by highly skilled archivists, librarians, and publishers. Scholars in previous decades have been so alienated from this basic practice of research—the preparation of

humanities resources for scholarship—that many of them coming to a digital environment are not able to recognize it is a core scholarly activity. This is a symptomatic disjunction between traditional scholarly communication models and new ones. On the one hand this disjunction is responsible for much of the agonizing lack of recognition and valuation by peers of editing and collection building. On the other hand, reconnecting with curation and editing in the digital environment often engenders profound intellectual rewards for scholars and great stimulation and learning for students. The gap will be closed over time, but accelerating the pace of closure is important both for the generation of scholars about to enter the academic market and for the undergraduates who pass through college on their way to their careers in the next information-rich decade.

The never-ending cascade of decisions made during collection building has the benefit of forcing scholars to engage core disciplinary issues. Faculty who build collections seldom do it for the sole end of collection building; it is the byproduct of an interpretive project, and the database serves as the primary site of interpretation. Decisions about such things as metadata schema, mark-up, annotation tools, and presentation design are part and parcel of interpretation.

But to the extent that they are part of a scholar's interpretation, these divisions can constrain re-use by others by precluding certain other paths through the same data. There is an intractable tension between the generalized and customized, between working for audiences narrow or large, between cross-disciplinary synthesis and hermeneutic interpretation, between building highly specialized, targeted resources, metadata schemes, and siloed repositories and the fecundity inherent in common metadata schemes, interoperable data bases, and platforms. These tensions will never be resolved, for they originate among the differing aims of scholarship and thread their way through every stage of scholarly production, dissemination, stewardship, and use. Hence the weight given to open vs. closed, generalized vs. specialized will vary in each circumstance.

But these decisions can become path-dependent: choosing one option precludes the choice of others now and in the future. Some SCI 8 participants deeply involved in collection building expressed concern that the way their collections were described and arranged within a database were so intimately tied to their interpretive intent that the effort involved in repurposing them meant that they were often abandoned after a project was over. When interoperability is lost, data are orphaned. This risk poses significant economic challenges to administrators and funders, regardless of the excellence of the scholarship. Shared information infrastructures, whether purpose built for academic purposes or enabled through use of cloud computing and commercial systems, are capable of leveraging economies of scale. This leveraging will make highly specialized humanities scholarship feasible and sustainable.

The scope of expertise and labor required by collection building and curation has significant implications for modes of scholarly work. Collaboration is favored over individual effort. It also presents new demands on underlying infrastructure. Speaking from a university-wide perspective, vice president and

CIO of the University of Virginia <u>James Hilton</u> argued that the only way universities can afford the scale necessary to support their research and teaching mandates is by starting now to build a small number of well-integrated networks of sizable storage and repository efforts. How scholars choose to work within cross-institutional networks will be influenced by discipline-specific needs. Scholarly societies are well positioned to intervene here—not as the primary repositories themselves, but as a bridge between a discipline's broadgauge needs and the shared cyberinfrastructure that will serve as the backbone of scholarship and teaching in the twenty-first century. Whether societies are aware of this need or willing to address it is as yet unknown.

Scholarly Blogs and Informal Communication

Blogs are often referred to as the gateway drug to other uses and modes of multimedia scholarship that engage new audiences. Blogs have been primary sites of the disintermediation of expertise and the reconstitution of new peer groups. Blogs are an efficient and inexpensive way to circumvent the needle's eye of scholarly publishing, accelerate the speed of communication and reaction, and make visible and accessible scholarly collaborations.

The ease of publishing to the Web, though, exacerbates the abundance of resources competing for readers' finite time. When so much content is so readily available, how do readers distinguish what is worthy of attention from what is mere distraction? This apparent problem of abundance can be misleading, though, because every blogging community constitutes itself and sets the parameters of both content and participation. Within higher education, for example, there are several social science disciplines with high prestige scholarly blogs serving as important generators of first-rate scholarship. The number of contributors within such communities can be held to a natural number. To do so means invoking measures of exclusion, a necessary act in the pursuit of excellence.

In a simple sense, blogs grounded in a community of scholars are simply engaging in another kind of peer-reviewed discourse. The relationship between this informal kind of peer review and more formal markers of peer review is unclear at present. But the efficacy of blogs to engender and sustain conversations is so great that often they are pointed to as integral to the creation of knowledge and therefore merit some kind of crediting. Perhaps there should be different units of micro-credit depending on the type of contribution, from curating content to sustaining the social network to editing and managing the entire communication enterprise of a collaborative scholarly blogging operation.

Publishers noted a potential role for themselves here in taking snapshots of content for curation and helping bloggers build and sustain communities of discourse. Libraries can archive those blogs deemed by the community as having long-term value.

Multimedia Argument

There are two models of multimedia argument: in one, argument is carried by prose and punctuated by media as illustration; in the other, the medium itself bears the burden both of presentation and argumentation. A fundamental question arises: is linearity essential for argument? Some asserted that humanists tend to fetishize linearity, and that in truth, even the most seemingly linear form—the book-length textual argument—is replete with recursions, ellipses, analogies, and allusions, each of which pushes against the linear. Monographs are structured like trees, with a long central line or trunk from which many branches lead off and from there, ever smaller branches are spawned. Perhaps we are so familiar with the monograph form that we no longer notice that few scholars read long-form arguments from the first page to last, in that order. Rather, they move in well-worn paths that run between introductory, reference, citation, and index materials, all centering around the core narrative presentation.

The challenge of working deep within a medium begins with basic technical proficiency and literacy skills in that medium. Direct presentation of evidence that is time-based and experiential means that authors will need to be explicit about what they intend the evidence to do for the argument. It also requires the scholar to clarify for the reader choices made in evidence selection and presentation. Many argue the scholar's role is to create an argument-in-media and build pathways through the content, giving explicit justifications for the selection, presentation, and paths the reader will traverse.

How does this affect the long form? The virtue of the long form is supposed to be that it shows mastery and originality. This is certainly possible to achieve through multimedia. We still expect to see parsimonious argumentation as the leading indicator of mastery and originality (this is where editors can help). This is the specific problems that the Networking Visual Culture group is addressing in collaboration with MIT Press in the development of Alex Juhasz's argument in YouTube format.³ The very nature of authorship changes: in addition to the scholar, is it the media personnel—photographer, videographer, editor, designer—who have claims to authorship. For in addition to the effect of that multimedia may have on argumentation, some SCI 8 participants argued, they also profoundly change both the nature of authorship and the way an audience encounters that argument. Again, more work has been focused on addressing multimedia in the authoring process, and thus more attention should be paid to the audience and its reception of multimedia argument.

Sound Studies

Scholars and publishers actively engaged in sound studies focused on the nature of the *strong illustration*—the incorporation of sound and image directly

³ For the Animating Archives meeting, see http://www.brown.edu/Conference/animating/index.html

into a text-based argument. This is a topic fraught with theoretical, practical, technical, and legal issues that need clarification before sound studies can mature and fully realize its potential. Interpretation and curation of sound resources rely on accurate, authentic representation of a source that is embedded—at times imprisoned—on fast changing media that are themselves bound up by convoluted rights considerations. None of these issues is transparent. Yet they cannot be avoided in mounting an argument in sound and about sound. They must be made explicit to the audience.

The use of language in a sound argument to present a theoretical stance and interpretation can be relatively straightforward. But it should be accompanied by a clear exposition of the practice—the specific choices the author made in the technical aspects of the aural representation—as well as the theory that undergirds an interpretation. Scholars suggested that a research note about the audio technology of recording and playback thus should accompany the interpretation. William Whittington demonstrates through his work on sound design in film that a book embedded with clips creates something novel, demanding users to navigate through sound and moving image as well as words. It thus thrusts them into a temporally dynamic interpretive space distinct from purely textual spaces or synchronic visual environments.

Given the imperative to quote sound, authors insist that they must be able to use audio clips under the rubric of fair use. The uncertainty about how to do that has led to an avoidance of aural citation in too many cases. This has in turn created an interesting deformation of sound studies genres—which SCI participants learned is known as the *drive-by disco* phenomenon in cinema. As Whittington pointed out, there is a long standing practice in filmmaking of substituting a generic clip of music such as disco in scenes where a copyrighted work plays in the background (e.g., a convertible driving by with the Beatles blaring from the sound system). Oxford University Press uses several approaches to this citation challenge, from making clips available on websites they control, to encouraging authors to link to other sites such as YouTube. When it comes to the persistence of links to sources that are not controlled by the author or publisher, such as YouTube, MediaCommons encourages authors to push the fair use envelope by linking to the site and scraping the content, backing it up, and using the stored version when necessary.

ADOPTION OF NEW GENRES IN EXISTING ACADEMIC STRUCTURES

These new-model genres not strictly speaking *emerging*, because they have already emerged. But they are in their infancy and each faces their own developmental challenges. Their evolution will continue to be shaped by rapidly morphing information technologies, by new cohorts of users, and above all by the communities that nurture and sustain them. Two factors that will advance adoption are already firmly in place.

Interdisciplinarity: Touted for its value to scholarship, interdisciplinarity is clearly encouraged by the use of keyword searching, the growing reliance on cross-disciplinary databases such as JSTOR, and proliferation of extradisciplinary humanities centers across the country and abroad. That said, the

consensus at SCI was that the all-important recognition and reward system that controls the scholarly labor market remains firmly within departments locally and learned societies nationally. Neither of these two centers of prestige and recognition have yet embraced new modes of scholarly communication to advance humanities scholarship. Developing more explicit models of the scholarship within these new modes of communication would greatly advance their understanding and recognition among departments and societies. Humanities centers, whether they are digitally inflected or not, can also play a central role in developing and socializing these new models of communication.

Publishing to the Web: Shrinking resources for publishing both long- and short-form work has led some to elide presses and journals altogether and publish directly to the Web. Media studies scholar Kathleen Fitzpatrick has developed a very robust model for this direct-to-Web solution to an economic barrier. As it is, many—quite possibly a majority—of faculty currently publish directly to their students on the Web by posting course materials on their Web sites; others are putting videos on YouTube. Significantly fewer publish for their peers this way. How long will that disconnect last? If scholars were to take stock of exactly how much direct-to-Web publishing they already do (including the venerable listsery), they might surprise themselves at the volume of their digital publishing. If they were to go one step further to examine why they chose those particular digital modes over print-based scholarly communication, they would begin to understand in finer detail the affordances of digital dissemination and perhaps think more deeply about its implications for creating new knowledge.

Architectural historian <u>Dianne Harris</u> noted that good technologies are very persuasive. They sell themselves. She is now able to represent the built environment in two- and three-dimensional digital modes, something especially compelling in undergraduate education. "Once you do that, there's no going back. It has become indispensable for our work." Indeed, once new information technologies become indispensable to research and teaching, they will become core to the humanities and be recognized—and rewarded—as such.

The question remaining is how these genres and their users will develop and be normalized within existing academic structures, beyond attestations and proselytizing. To address this question, we looked at mechanisms available to the three professions most responsible for scholarly communication: the professoriate, publishers, and librarians.

Professors and Peer Review

Dan Cohen remarked that communities come first and the growth of new-model genres second. Among scholars, this means the peer review system must fully integrate scholarship based on new technologies, understanding the intellectual merits of the work done, developing appropriate metrics for measuring the excellence of that scholarship, and creating and refining old mechanisms for recognition and reward.

As we noted when looking at the map of the scholarly communication process itself, review, validation, and judgment take place in each of the four quadrants of the map. During authoring phases, scholars frequently ask for informal reviews by respected peers. In the publication process review happens through formal channels in the course of accepting or rejecting a publication. As stewards and collection builders, librarians assess the value of titles for their faculty and student body when acquiring or declining to acquire them for publication. Ultimately, the readers have the last and irrefutable word in the matter. They either read and recommend a work, or they put it down and pan it.

While each of these stages is implicit and often occurs behind closed doors in the print model, all of them have become transparent and accessible for remodeling in the digital. New models have prototyped open access (Kathleen Fitzpatrick's Planned Obsolescence) and open peer review (such as the Shakespeare Quarterly's issue on Shakespeare and New Media guest edited by Katherine Rowe). These pilots force open wide the usually gated access regimes of the humanities and the protected review process conducted by journals and university presses. Another experiment in review is being conducted by Dan Cohen through Digital Humanities Now (DH Now), a project that leverages linking to discern what merits people's attention. This is a real-time experiment in building community and audience, letting the content that is of greatest interest to this self-organizing group rise to top visibility as a sort of collective, passively edited editors' choice.

The weaknesses in these open experiments are there for all to behold—they are, after all, open. Leaders of the projects pointed to a tendency to create echo chambers, for example, and to reify existing groups of like-minded folks that create in-groups and outsiders. But such flaws are hardly unique to these communities. They are simply more visible. (Such features also abound in the walled gardens of blind review systems currently in place and may be less subject to correction.) In addition to the openness that is a core ethic of the humanities, alternative approaches offer the ability to surface the unlikely, the unusual, the often underrepresented. Open review has its trade-offs: it is quite labor-intensive. But those engaged in the exercise claim that it garners better feedback for authors and expands the variety of expertise in the process as well as recruits a broader readership.

The essence of review is to recognize and reward impact by discriminating between what is excellent and what is merely good. SCI participants were sharply divided in deciding precisely how these judgments should be made and by whom. Some argue that larger pools of reviewers or the presence of named reviewers create a harmful group-think effect. Dangers include a tendency to rule out innovators, outliers, and dissenters in favor of what is acceptable to all or simply in vogue. Sometimes it is the smaller groups of scholars are freer to reward what is innovative rather than what is popular.

Participants debated the ideal relationship between reviews that are aimed at certification—those for making publication or tenure and promotion decisions—and those aimed at development, designed to help improve work. It is precisely in the relationship between certification and development that we find the nexus where reward is brokered in higher education. For review can define

community standards of scholarship, rule on who can and cannot participate in the creation of it, and decide for whom it is being created.

Whether participants came down on the side of communities in higher education being open and self-organizing or closed and self-replicating, all agreed that there are some practical problems inhibiting peer acceptance of excellent digital scholarship. These can and must be addressed in the short term.

Short-term Problems and Opportunities

The first is the difficulty of selling core scholarly activities of digital scholarship—tool development, database and collection building, markup, editing, multimedia argumentation—to peers themselves not immersed in these activities. The remedies for that can be simple, though time-consuming. Authors need to be aggressively transparent in articulating where the scholarship in these activities lies, what are the assumptions upon which they are building their tools, editing sources, and performing other research and presentation activities. In addition, peers need to be taught how to assess digital and methodological work. Scholarly societies are ideal sites for this kind of training, as the Modern Language Association has demonstrated in its annual digital scholarship review workshops.⁴

There is also the laborious but absolutely necessary work of reengineering systems of credit. Cohen rued that "it is easier to rely on hand-me-down heuristics than to build a new evaluation system." Yet it is the critical next step. Some participants bemoaned that fact many universities reward research over teaching and service. There is no reason this fact would disadvantage digital scholarship per se. On the contrary, if research truly is the creation and curation of knowledge, as Wheatley said, then in principle each act of digital creation and each act of digital curation requires review and hence merits some measure of credit. The question then is one of what kind of credit and how much. Moreover, acknowledgement of the collaborative nature of new-model scholarship is necessary and systems of micro-crediting for this kind of work should be worked out within the context of the discipline, ideally under the auspices of a learned society.

Finally, and most practically, new crediting systems are necessary for peer review itself to survive in an era of increased time pressures on all members of the academic community. For it is the labor of reviewers, not just those reviewed, upon which the fate of the review system rests. Anyone wondering how much more severe the pressures of peer review can become need only look at their colleagues in the scientific departments on campus. In these fields, the rate of publication is so high that peer review is widely recognized to be in peril. As of December 2009, the fields of biology published two new papers every

⁴ Modern Language Association, *Evaluating Digital Work for Tenure and Promotion: A Workshop for Evaluators and Candidates*. See: http://www.mla.org/resources/documents/rep_it/dig_eval.

minute. In all scientific fields, there were five new papers published every minute.⁵ This places extraordinary stress on the reviewers and, not incidentally, the readers of scientific literature—that is, on scientists themselves.

The Pivotal Roles of Publishers

Maria Bonn, associate university librarian for publishing at the University of Michigan, said the role of publishers is to bring scholars to a point where their work can connect with the public. This role has great potential for growth. Publishers' perspectives on how to move forward introduced a disciplined and pragmatic way to look at the issues under discussion. First, the editors and press directors present pointed out the lamentable disconnect between what this group of SCI participants are doing and what comes across their desk on a typical work day. Far and away the majority of scholars young and old bring to them traditional monograph and journal article manuscripts. Even when urged by editors to include digital media, typical humanities authors tend to add media-based illustrations in the traditional sense, as an afterthought. They simply do not understand or are not well supported in the digital authoring process. This argues for the creation of a set of digital authoring templates available to scholars at the beginning a research project. A template would outline a given process of authoring with new media, summarize the choices between various digital genres and technologies, articulate best practices for reference and citation and for the creation of a manuscript, digital artifact, or interpretive expression in preservation-friendly formats. Such templates do not exist or have not reached wide audiences. Development of them could be undertaken in collaboration with a group of presses and a scholarly society (say, its research division or an ad hoc group). This could result in the production of a digital methods handbook for historians, a handbook for sound studies, one for architectural historians, and so forth.

Templates alone will not close the gap between the possibilities of new media authorship and the reality of what comes to publishers. Alan Harvey of <u>Stanford University Press</u> noted that any change in publishing models needs to begin with changes in undergraduate curricula and be reinforced throughout graduate school. At present, students in college and graduate school are still instructed in how to achieve reading and writing proficiency primarily in print genres.

Looking at their own in-house practices, publishers identified the need to rethink and rework contracts in light of multiple authorship, changes in content and presentation over time, and the demands of users to download and re-use content. When and how peer review happens also needs to be rethought. Digital publishing raises issues of version control, something publishers argued still matters for reference, citation, and archival purposes. The whole model of publication might be reimagined as a core and relatively fixed body of content that has a dynamic community of discourse around it—readers, reviewers, and

⁵ Doug Kell, Chief Executive of Biotechnology and Biological Sciences Research Council in the UK. See:

http://www.netvibes.com/idcc2009#Completed_Sessions.

authors adding to the original work. That kind of work necessitates new contracts with authors, new in-house development processes, and possibly new relations with content repositories for scholarship that is aimed at using and presenting archival content in new and often interactive modes.

Above all, new-model publishing requires a cadre of professionals with new skills and expertise. They need new ways to develop content and create compelling rhetorical strategies ("no gratuitous rich media, please" as one publisher implored), to copy edit and market content, and to gauge success. There are fellowships to support the development of digital scholars and also digital librarians. Regrettably, there are no such developmental funds or programs for the nurturing of new-model editors, marketers, and directors so essential for a healthy ecosystem of new-model publishing.

The Long-term Value of Libraries

Libraries have been in the forefront of building cyberinfrastructure for humanities and social sciences. From digitization of primary sources and experiments in developing institutional repositories, to supporting open access publishing models and building laboratory space for research and teaching, libraries have provided services to scholars throughout the process of scholarly communication. Now they are drawing postdoctoral scholars and so-called alternative academics into building new library services such as digital humanities laboratories (the Scholars' Lab at UVa) and innovative publishing programs (at the University of Michigan Library). ⁷ SCI participants viewed libraries as critical in furthering humanities scholarship in two seemingly contradictory ways: first, as trusted conservator and long-term steward of humanities scholarship; and second, as a force for innovation and a neutral meeting ground of people from different disciplines and professions to collaborate and experiment.

Just as humanities departments nationwide are producing more humanists with advanced degrees at a time when there are shrinking professorial opportunities, libraries are actively developing career paths for such alternate academics. Even so, libraries face the same problem as publishers: a lack of professionals skilled in the implementation of new-model scholarly communication. How can higher education as a whole redress this crisis in resource allocation, when it continues to produce bumper crops of graduate students in fields which themselves are not hiring, and fails to create clear alternative paths for these professionals to move into library, press, and digital humanities center work?

While active collaborations in the creation and dissemination of scholarship are taking hold within research libraries across the country, the mission that is

http://www.clir.org/fellowships/postdoc/postdoc.html. For ACLS Digital Innovations Program, see http://www.acls.org/programs/digital/.

⁶ For CLIR Postdoctoral Fellowships, see

⁷ Bethany Nowviskie, http://nowviskie.org/editing/alt-ac/ and http://chronicle.com/blogPost/the-alt-ac/26539.

core to these libraries—the work of preserving a continuous body of knowledge from generation to generation—has become more critical than before. Yet while preservation and stewardship have already emerged as the critical functions of libraries in the digital age, the need to support a still growing, physically fragile, and expensive print collection continues. It competes head-to-head with an urgent need to build a scalable and durable digital infrastructure as both investments draw on a shrinking resource base. There is only one way to expand this base: to pool resources among universities for a shared infrastructure of a scale that far exceeds the one-campus-one-library model that print publishing has instantiated.

New-model scholarship needs to address important technical and intellectual questions to succeed. But success will ultimately rest upon how well the entire enterprise is socialized within higher education. Libraries are developing new models of stewardship based on a shared infrastructure, and this requires a new social model of cooperative and inter-dependent collaboration among different research libraries, rather than the ingrained model of competing library to library, campus to campus, like rival football teams.

NEXT STEPS

David Brownlee pointed out that "humanities scholarship is what humanities scholars do." This statement is not only a call to action, but also a reminder that humanities scholarship has an unusually large scope of action, free to engage in compelling new areas of inquiry. And it is not solely scholars who determine the shape and fate of humanities scholarship. While the genres that SCI participants explored have many diverse features, they all emerge from communities that are not constituted exclusively by scholars. On the contrary, these communities include librarians and technologists, publishers and scholarly societies, higher education administrators, and above all, users in the classroom and on the go. Each of these communities needs to be actively engaged in the next stages of humanities development.

Participants identified three urgent needs facing the humanities:

- 1. *demonstrate value* by creating high quality scholarship and making it readily available to communities within and outside of the walled gardens of higher education;
- 2. accelerate the pace of development by disseminating scholarship in early stage and in-process versions that get into the hands of users quickly;
- 3. build to scale at the institutional level by pooling resources towards higher education infrastructure to achieve economies of scale; and at the individual level, by taking advantage of consumer technologies and pushpull technologies of customization to deliver scholarship to users in multiple venues of their choice.

SCI participants developed a rich menu of near-term actions to address these needs, summarized below.

Focus on Audience

The ultimate measure of successful scholarship is impact. Digital technology provides low-cost and far-reaching delivery of scholarship to peers, students, and an interested public. These resources must find users in each and every generation to be sustainable over time. Much innovation in the digital humanities has been around core disciplinary research problems, collection development, and tool building. Now it is time to focus more on maximizing use and impact of digital resources, expressions, and methods among peers, students, and the public.

Educate Tomorrow's Scholars, Professionals, and Public

Communicating the importance of the dialog between the past, present, and future to students and the public is key to creating demand for humanities scholarship. Therefore we need to ensure that our students and the public—not to mention our peers—are equipped with the media literacies necessary to learn and communicate effectively in the current information age. We need to focus on undergraduate education and teach digital literacies through curricula closely aligned with the real needs of present and future students and scholars. Engaging graduate and undergraduate students in the development of new scholarly genres is a compelling way to develop such literacies. Learning key technical skills applicable to a given field—be they in geospatial or textual analysis, information architecture, programming and design, or the development of data and metadata encoding schemes—is most effectively achieved in the course of doing scholarship itself.

Develop and Test New Models

New models of scholarly production and dissemination should be developed and tested in the classroom, in collaboration with presses and libraries, and in open Web communities. At this stage of development, multiple models should be developed and put into the hands of scholars; each disciplinary community needs the opportunity to try new models and judge their value for themselves. When accepted and adopted, these models will require the development of new assessment and credentialing protocols. They should take into account contributions to scholarship at all scales, from long-form argument to critical and multimedia editing, as well as the multiple contributions made in collaborative scholarship.

Learned societies should take leading roles in sponsoring the development and testing of such models, including protocols for review of digital scholarship, society-sponsored "editor's choices" of models for best practices, topic-focused blogs, featured podcasts on important disciplinary trends and issues, and engagement of graduate students and junior scholars in developing online member services. Some societies (e. g., Society of Architectural Historians, Modern Language Association) provide important models to follow, having committed to developing and testing new forms of publication, assessment of scholarship, and society-based community engagement.

New professions also need to be modeled. In addition to the development of alternative academic careers for scholars, there is a need to develop new venues for acquiring professional skills and forging attractive career paths for librarians and publishers.

Leverage Existing Resources and Infrastructure

Because of the increasing scale of higher education infrastructure required by any single institution, cyberinfrastructure should be developed as a community resource, not a campus-based resource. The backend of scholarship—constituting presses, centers, and libraries—needs be built upon interoperable systems that include publishing platforms, digital repositories, and shared development of standards and best practices. Interoperability means building locally to fit a common set of open APIs rather than building within a siloed central working environment in the one campus-one library model.

Reduce Intellectual Property Constraints

Few things present themselves as unmovable objects in the path of the irresistible force of mass migration of scholarship onto the Web and into the hands of students and the public. Intellectual property is a formidable barrier, however. SCI participants who deal with these matters on daily basis—university administrators, legal counsel, and publishers—urged scholars to assert their fair use rights aggressively. Avoid asking permission, especially of risk-averse university counsel. Focus instead on small-scale and significant actions, such as committing to a publishing contract that promotes open access and re-use. Both publishers and scholarly societies must also throw weight behind fair use.8

Step Up the Pace

The new publishing ecosystem operates at an accelerated pace; change has become a way of being. Whatever we do in the present must be conceived as adaptable and responsive to changing conditions. As <u>Scott Morris</u> of Apple, Inc. said, we would do well to develop and test several different models, starting with 1.0 versions that get into the hands of users quickly, perfecting our design of these models over time. Further, the best way to reach our intended audiences is to plant our scholarship "in the same ecosystem as other content," and enable flexible use and remediation through open standards.

 $\frac{http://www.cmstudies.org/index.php?option=com_content\&task=view\&id=8\&Itemid=1.$

⁸ For the CAA statement on fair use education, see http://www.ninch.org/issues/copyright/FAIR_USE_EDUCATION/FAIR_USE_EDUCATION.html. For the Society for Cinema and Media Studies statement of fair use in multimedia scholarly publishing, see

Change the Climate of Opinion

A key component of stepping up the pace of development and engaging more people in testing and modeling new forms of scholarly communication is to hold a mirror up to scholars to reflect what they are actually doing. Much of the conservative academic rhetoric that surrounds the digital scholarship masks significant *de facto* digital publishing. Therefore, we need to engage our colleagues in reflection and assessment about current practices. This is likely to have more influence than exhortations. A good way to measure how far we have come would be to revisit the influential report published by the American Council of Learned Societies, <u>Our Cultural Commonwealth</u>. Within the space of just five years since publication, much of what the report authors identified as *desirable and possible* has come into being. Looking at what has been accomplished and the impact of those accomplishments will further socialize new practices and behaviors, highlighting the ways that scholars move from digital evidence to digital publication.

Conclusion

The scholarly communication system currently in place evolved in response to what scholars aspired to do and what available technologies made possible. The same dynamic is in play today. And just as the first wave of print-based scholarship created new forms of publishing and new audiences, so, too, will new digital genres arise together with new audiences for these forms. This long view of scholarly communication as a continuum of evolving forms and audiences highlights one more critical fact: the system we are building today is one that will be inherited by the next generation of scholars, currently enrolled as undergraduates and graduate students. We need to act now to ensure that the humanities deeply engage these students. If they continue through school alienated or indifferent to the humanities because we failed to make humanities scholarship accessible, they will carry that alienation and indifference with them over the course of their lives. At stake is not just contemporary scholarship and the well-being of humanities professionals. At stake is the role that humanistic learning and knowledge will play in the daily lives of our students and the citizens they grow up to be.





SCHOLARLY COMMUNICATION INSTITUTE 8: EMERGING GENRES IN SCHOLARLY COMMUNICATION

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