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The Scholarly Monograph's Descendants

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Introduction

This paper looks at the possible evolutionary paths that the current printed scholarly monograph may take, paying particular attention to the ways in which technical, economic, and cultural factors may shape this evolution. It does not predict the demise of today's printed scholarly monograph, but suggests that it will coexist with a series of successors that will offer new points of balance among technical and economic constraints and opportunities and that will provide authors with new ways in which to communicate their research. For some works and purposes, the new forms will be superior; in other cases, the traditional printed monograph will likely remain the preferred form.

I begin with a brief examination of the current state of the scholarly journal in its transition to electronic formats—or at least to electronic distribution. This transition is arguably more advanced and taking place on a broader scale than is the evolution of the monograph, and thus it may offer insights into what we can expect for the monograph. At the same time, I will argue that much of the experience with the journal may be misleading when extrapolated directly to the future of the monograph. I have chosen words carefully: I believe that what is happening to the journal is best described as a transition or migration, while what we will see with the monograph is the evolution of digitally based successor genres that will coexist with the current print monograph.

The paper continues with a summary of some of the economic and technical constraints that will shape this evolutionary process. Particularly in the area of economics, I draw heavily on data presented at the Future of the Scholarly Monograph Conference and which I would expect to see detailed in other papers in this proceedings. As a means of exploring the character of the monograph's successors, I conclude with a discussion of the various roles that the monograph now serves and the ways in which these roles are facilitated or hindered in the digital environment.

Points of Comparison: The Scholarly Journal Becomes Electronic

Much has been written about the future of the scholarly journal that dominates the acquisitions budgets of most research libraries (particularly in scientific, technical, and medical fields). Despite rhetoric to the contrary, virtually all of the current electronic scholarly journals are relatively direct translations of print journals into the digital medium. Changes have been around the margin, in the inclusion of modest amounts of multimedia material and an updating of errata and letters to the editor to take advantage of the timeliness and linkage so readily available in the electronic environment. We are now beginning to see changes in the packaging of electronic journals as well, with citations becoming navigable links and with the inclusion of preprints on some electronic journal sites.

Electronic journals have brought only modest change to readers. Indeed, the electronic journal seems rather like an enormous distributed print-on-demand system. The online version is used for quick reference and to allow readers to decide what they really need to read. But it is very likely that the reader will print those selected articles on a local printer.

Data gathered from early deployments of the electronic journal (such as the American Chemical Society/Bell Labs/Cornell CORE project, the Elsevier TULIP experiment, or the joint IEEE/IEE/University of California collaboration) show that few people want to read lengthy documents on monitors, particularly those really designed for paper. And the granularity of journal use --the fact that they are consumed in reasonably small, article-sized units -- makes the nuisance of local printing still acceptable to most readers.

It's likely that the evolution of the scholarly journal will continue to be gradual. For example, we will see the addition of more multimedia material and the introduction of new page layout standards (HTML replacing PDF) that are a better fit to viewing on displays. Any real revolution that occurs will be in the economic and social spheres, such as in the adoption of explicitly subsidized community preprint systems for certain disciplines or new pricing models for institutional and individual access to large collections of journals from a single publisher. Yet there is ample reason to be skeptical about the extent to which the transition of the scholarly journal to the digital medium will mitigate the financial pressures that research libraries face with regard to rising journal costs. Other emerging market forces that the digital environment facilitates (increased competition and the development of alternative dissemination channels) may change the economic picture, but these are not a direct result of the journal's digital migration.

The scholarly monograph is a genre predominantly of the humanities and the social sciences and represents a routine rather than unusual dissemination vehicle for scholars in these fields. Its conditions are very different from those of the journal. Understanding these differences is a prerequisite for viewing the future of the scholarly monograph.

Monograph Economics

The scholarly monograph is in substantial economic difficulty. The purchase of monographs has been crowded out of library acquisition budgets by the need to maintain subscriptions to more and more costly scientific, technical, and medical journals. Increasing monograph prices and changing reader behavior patterns also seem to be reducing the number of individual, as opposed to institutional, monograph purchases. We see the same downward spiral that is now familiar in journals starting to affect monograph publishing: reduced subscriptions lead to higher prices as the base over which to amortize the first copy cost continues to shrink; higher prices lead to further reductions in subscriptions.

The situation is worse for monographs than for journals, however. While libraries and readers have been justifiably skeptical about the real amount of editorial "value-add" that many journals provide, it is clear that a substantial cost is involved in reviewing and editing a manuscript into a publishable monograph. Preparing a publishable book is much more complex than preparing a scientific paper, and while most academic authors are familiar with how to write a paper, few have much practice in authoring books. Digital technologies will make little impact on these costs -- beyond the already achieved cost-savings of word processing and computer typesetting -- unless the entire practice of monograph publication is reconsidered, and the expectations about the level of editorial quality, production values, and extent of editorial intervention change.

There is also a greater marketing challenge. Journals are sold by subscription and, at least potentially, aggregate the interests of many readers and authors into a single purchase decision that they can advocate. Journals require marketing and promotion, first to convince a library to subscribe and then to continue to attract authors and readers, so that the journal remains vital and is renewed annually; further, each renewal builds upon the value of previous years of subscription. Unlike the collective advocacy for a journal title and the continuity of its renewal, each monograph purchase is a separate, one-time decision that may be of interest only to its author and a small cadre of readers. Reaching

this small group requires higher marketing and promotion costs per dollar realized in sales. Such costs can be somewhat mitigated by the creative use of networked technologies. Highly targeted electronic mailing lists and publisher web pages can reach qualified potential readers at relatively low cost, and online bookstores, like Amazon.com, can make specialized monographs as visible and as readily obtained as mass-market books for a much broader consumer base.

On the more positive side, journals have enjoyed a historical advantage over monographs because subscriptions make the journal run size highly predictable. Print overruns leading to expensive unsold inventory, or print underruns leading to unfilled orders and the dilemma of whether to reprint a work, are classic problems for book publishers. Given the rather small sales of the typical monograph, the use of new print-on-demand technologies, where the publisher or distributor prints and ships copies as orders are received, should be a welcome alternative and perhaps a means to control or modestly reduce costs.

The rhetoric and perception of the monograph's economic problems are different from those of the journal. For-profit commercial publishers are less of a factor in the publication of monographs than they are in journals. There seems to be at least some consensus that the problem is one of cost rather than price. The costs of producing an annual portfolio of scholarly monographs of sufficient scope and diversity for the humanities and social sciences when there is so much pressure on academics to publish seem to exceed the level of funding that research libraries can make available to underwrite their purchase. . . and hence their publication. Unfortunately, even if printing and distribution costs can be greatly reduced (or shifted to readers, though this is more problematic than with journals), this won't solve the dilemma: editorial and promotional costs must be substantially reduced as well, and most of the easy technology-based savings here have already been exploited.

The calculus is stark: find more money, reduce the demand to publish monographs, or greatly reduce the cost per monograph somehow.

Digital Monograph Technologies

Unlike journals, the scholarly monograph will not simply translate directly into electronic form through appeal to a network-based retrieval and viewing mechanism complemented by a distributed print-on-demand system. Given the current state of the art in display technology, few readers want to read an entire monograph on a monitor. Also, few readers are eager to print entire books on personal or workgroup laser or inkjet printers, many of which cannot even print on both sides of a page; nor do they want to have several hundred awkward loose pages that they cannot bind. Print-on-demand models will require intermediaries and infrastructure in order to garner interest. Either print-on-demand will be hidden in the reader fulfillment operations, or the reader will acquire a monograph electronically and then route it to some institutional or commercial printing service. In either case, this means shared access to large, expensive high-speed printer/binder machines. Thus, a simple translation of the monograph to an electronic view and print-on-demand system similar to what has evolved with the scholarly journal will have a more limited impact on both cost patterns and accessibility.

Several new technologies may ultimately make it more acceptable to read monographs on-screen. Very high-resolution monitors already exist, but they are still too expensive for most scholars and virtually all students, particularly in the humanities and social sciences. There are a number of experimental technologies under development in research labs that seek to produce various forms of "digital paper." Several portable "book readers" are entering commercial release, but their acceptance in the marketplace is uncertain. Even if their technology proves to provide a superb reading experience, they can only succeed if

publishers agree to offer a wide range of desirable content for downloading into them. This acceptance by publishers is hard to predict. In the music industry, record companies have been reluctant to move beyond the sale of content bound to a physical artifact (such as compact discs) without a system that embodies extremely strong technical protections on the redistribution and reuse of content. The recording industry is now faced with consumers able to convert their digital content from the physical artifacts that housed it into disembodied digital objects through MP3 digital audio technology, and it is reacting with great alarm and strong opposition. So far, the book publishing industry has generally not made digital content available to the consumer in any form and has been able to avoid these problems. It is unclear whether book reader appliances will achieve a balance in the incorporation of technical content protection measures that will make both consumers and publishers comfortable.

The other path is to seek successors to the printed scholarly monograph that are actually designed as networked information resources, instead of printed works that have been translated to digital material. We can see early forms of this technology in some of the subject-specific websites that individual scholars and teams of scholars are now developing. These are -- or can be -- very different from traditional printed monographs in a number of fundamental ways. We can't generalize from the current wave of experiments to a precise picture of the genres that will emerge in the early 21st century by winning consensus among the community of scholars and readers. But the following observations may at least provide some useful insights:

- Navigation through websites is highly nonlinear. The reader may enter at any page and can follow links that define many paths through the work. In general, lengthy works that are delivered for sequential reading do not do well on the web. This has profound implications for the ways in which theses and arguments are constructed and for the amount of repetition and internal citation that is needed in a web-based "monograph." Monographs that capture more of the character of an encyclopedia than of a linear critical thesis or argument fit better into the current web model. This has substantial implications for the authoring of works in fields, such as history, biography, criticism, and area studies. It also suggests that it may be easier to find and reuse information contained in these works.
- Because it is inexpensive to incorporate digital images or even video in websites, visual and, perhaps, audio materials may play a much larger role in digital scholarly discourse. While databases, simulations, and other components have often been mentioned as exciting potential parts of journal articles in the digital world, they are often expensive to construct and may be more appropriate for book-length treatments of topics. Similarly, datasets of various types often form the basis of many articles, and authors may be reluctant to release them until they have exhausted their analysis of the data. This is more feasible in a monograph than in a journal article. It seems possible that we will see nonprint materials more extensively used in the evolved scholarly monograph than in the translated journal article, at least in the near term.
- Monographs capture the fruits of an extensive and lengthy research into a topic. Once published, they are revised only infrequently, if at all. Websites are living resources that may be continually updated, at least as long as the authors of the site continue to be interested.
- Websites today represent a shift in the locus of editorship back to the authors. In the world of print, raw manuscripts are often refined by editors and reviewers into much more compact and finished works. The digital descendants of the monograph are likely to contain more rather than less material. While the prose

may be edited, and the content reviewed and validated, the more global and structural editing processes characteristic of books are not likely to be applied. Again, thinking of the model of an encyclopedia rather than a critical monograph may be helpful.

- Much more source material is likely to be included, particularly when the source material isn't encumbered by copyright constraints. Space isn't an issue as it is in print, and the convenience of permitting the reader to inspect the evidence directly or review the source material is compelling. It is easy to move back and forth between source material, translations of source material (where appropriate), and commentary or analysis. Criticism and analysis will be more closely linked to, or integrated with, comprehensive corpora of source material. This will imply new relationships between archives, museums, libraries, and scholarly authors. It also suggests that the boundaries between editorship (for example, of a collection of the works of an author) and criticism and analysis may change.
- The digital monograph is likely to become a larger scale, collaborative effort. In print we might think of a series of interrelated but distinct and independent works, such as a critical edition of the writings of an author and a number of works of criticism and analysis that make reference to this authoritative edition. In the digital environment, all of these resources may be woven together into an encyclopedic work of multiple authorship. It will also be possible to link sites in a more extensive and intimate way than can be accomplished through traditional bibliographic citation. In the print world, reviews are separate from monographs; on the web, the comments of one scholar can be directly integrated into the living work of another. And websites, particularly if they involve digitized source materials and multimedia, are often the products of teams rather than individual authors.

Ironically, works that are in the truest sense monographs may tend to stay in printed form, but the capture and communication of a great deal of scholarship, which has historically been constrained by the traditions of the monograph, may quickly switch over to the new digital genres.

The Economics of the Monograph's Digital Successors

The economics of these digital successors to the scholarly monograph are very different from today's published, printed monographs. They are not cheaper to produce. Instead, costs are displaced from the library's budget (which underwrites the publisher's editorial efforts) back to the scholars and staff who author and manage the sites. This is neither inherently good nor bad. The key question is whether the ability to develop such sites as an alternative means of scholarly communication enriches the communication of research and the opportunities for learning. What is potentially dangerous is the failure to recognize that the economic dilemma of the monograph has not been solved, but only rearranged.

At some institutions, libraries, information technology organizations, and instructional media groups may choose to help underwrite such efforts directly; they might provide: support staff, training, digitization; links to special collections, museum, and archive holdings and collaborations with the curators of these collections; and site hosting services. In some libraries, such funds may be more easily obtained than funds to support the expansion of a traditional acquisitions budget. Today, access to such sites typically follows a "circle of gifts" model. Institutions where faculty members create such sites may in future attempt to market access to help underwrite their creation and continued maintenance. Will organizations such as university presses have a role in this process? Will they want to "acquire" and market sites created by scholars outside of their parent

institutions, rather than simply facilitating access to information created by their parent institutions? Sustainable economic models for the digital successors to the monograph have not yet been established.

The issue of archiving most vividly exposes the dangers of the cost-shifting that is occurring with digital alternatives to the monograph. Consider the long-term preservation dilemma of the "ultimate" version of a site that ceases to be updated because the authors of the site have lost interest, moved on, or died. A printed monograph might represent decades of research. Once published, many libraries acquire it (underwriting its publication through their acquisition budgets) and place it in their permanent collections, thus archiving and preserving the work for the long term. The knowledge created by the author is institutionalized in two different ways: the capture of the knowledge in a fixed, refined form is paid for; and it then becomes part of the collection for which the research and education community provide stewardship responsibility. Faculty websites today, in general, are not really institutionalized. They tend to be maintained and operated on a highly distributed and informal basis on individual or perhaps departmental machines. There is no mechanism for transferring their stewardship to the institution or to the broader higher education community. We face a nightmare scenario: A professor dies suddenly. His or her office is cleaned out; it includes an old model computer, which is disconnected and perhaps donated to some local elementary school. An important, authoritative scholarly website suddenly disappears from the Net, gone forever, because the deceased professor's colleagues don't realize that the old computer hosted the work.

Obviously there are ways to begin to address this problem, such as archive sites that can be made available to faculty, but they will not develop until we move beyond haphazard cost-shifting to the design of frameworks to properly support the new genres in the same way that libraries have supported the printed literature.

Monograph Roles

One role of the monograph is to communicate with other scholars and with students. The promises and shortcomings of the monograph's digital successors in this role have already been discussed. There are at least two other roles that must be considered. Monographs form a bridge between the academic community and the general public. Few general readers actually read many scholarly monographs, but they provide an important path for knowledge to move from the academy to the broader society. Digital "monographs" may be more visible and more accessible to society at large, although ultimately this will depend on the economic model that underwrites their creation, maintenance, use, and preservation. I believe that the broader public will have little problem with the new forms and characteristics of monographs transformed into networked information resources. To the extent that they are effective in making knowledge accessible, digital monographs will be quickly accepted by a public motivated primarily by practical considerations.

The other role of the monograph is as a validation of scholarly achievement, including its role as evidence to support tenure and promotion decisions. Here matters are much more complex and troublesome. At the Future of the Scholarly Monograph Conference, we spoke of the "thud factor." This is the personal gratification and the credibility gained by the author by being able to drop a nicely produced, hardbound monograph with beautiful cover art from a well-known university press on the desk of a colleague or dean. The electronic successors to the monograph may contain rich images, but they do not have "thud." A real problem with a website is determining how large or how long it is, and when one has actually finished reading it! And, at least today, they do not carry the imprimatur of a press, though one may be able to obtain peer reviews of the quality of contribution that the site represents, more likely as after-the-fact commentary than as an implicit condition of publication. Reviewers understand that a print monograph represents a snapshot of thinking at a fixed date, while they expect websites to be

constantly current and tend to react negatively to a website that has not been maintained. Further complicating matters, most monographs are the work of a single individual, while networked resources seem to thrive on collaborations. And there is some preliminary evidence that the most successful electronic sites will not be direct analogs of the printed monograph, but will borrow and incorporate characteristics from other scholarly genres as well. It is also possible to introduce new factors into the assessment of a scholar's digital work: for example, one can track the extent to which it is being used by the community, which is likely to be more informative in many cases than print sales.

At least in the near term, faculty who choose the digital successors to the print monograph as their primary venue for communicating scholarship will be at risk in the tenure and promotion process. The problems are cultural, generational, and, to some extent, based on the unfamiliar nature of the digital genres.

It's easy to identify actions that can mitigate some of these problems and accelerate the cultural change that will validate the descendants of the scholarly monograph as significant contributions to scholarship. Provosts, presidents, and deans might advocate and champion tenure and promotion criteria that emphasize the impact of fundamental scholarly contributions, rather than form or genre. Leading scholars might work within their disciplines to review, evaluate, and recognize the contribution of these new genres. And the library community might develop mechanisms to institutionalize the new digital works for archiving and preservation purposes. But all of these are processes. There are no instant solutions.

Conclusion: The Future of the Monograph

A whole panorama of new possibilities is opening up for scholars who have traditionally authored monographs, limited only by their personal creativity and their ability to obtain resources to translate that creativity into action. In the networked information environment, they now have a growing range of alternative genres through which to communicate and share their research and their ideas. The traditional print monograph will remain an option for works that are best suited to that vehicle. For other types of material, more dynamic and potentially more collaborative venues are also possible. We may begin to see a significant sociological shift in the humanities and social sciences toward a more collaborative scholarship that embraces both individual analytical and critical work and the creation of large community knowledge bases. Balancing and integrating individual and community perspectives in these knowledge bases will be a fascinating and fertile process. This is a time for experimentation and for opening up new pathways, though that choice carries some risk in terms of the recognition that new forms of scholarly work will be awarded.

From an economic basis and the perspective of libraries and universities concerned with the long-term development and management of the knowledge base, the situation is more complex and somewhat less optimistic. There is a major problem in funding the traditional dissemination vehicle for scholarship in the humanities and social sciences—the published, printed monograph. New genres that are developing to complement the traditional print scholarly monograph—while they may temporarily help to relieve the funding crisis for print monographs by reducing the number of monographs that need to be published in print and thus allow research libraries to acquire more of the corpus of published monographic literature within current budgets—the new genres themselves do not stand on a firm economic basis. They move costs "off budget" for the usual institutional entities and back to the individual faculty member in many cases, creating new demands on faculty time and leaving the archival survivability of content created within these genres at great risk. Scholars will have many new opportunities to codify, structure, and convey their knowledge in the digital environment, but will have to exercise more individual initiative and effort to exploit these opportunities in the current

unstructured economic framework. And the products of their work are in peril of becoming lost to the scholarly community.

Over the next decade, our challenges will be twofold: We must find ways to formalize and underwrite these efforts on an institutional basis, recognizing that they will strengthen research, scholarship, teaching, and learning in all the disciplines, but particularly in the social sciences and humanities. And we must ensure that the new genres are institutionalized, managed, and preserved as effectively as is the traditional print monograph.

One point is very clear. Nurturing the descendents of the monograph invites and requires us to consider how we can most effectively make these changes to support scholarship on a broad institutional and disciplinary basis. It is not just a "library problem" of how to divide an increasingly strained acquisitions budget between scientific and technical journal subscriptions and the purchase of scholarly monographs; rather, it reaches to fundamental questions about the roles and responsibilities of a range of organizations within the university in facilitating the creation, dissemination, and preservation of scholarship and how best to allocate resources among them to accomplish this goal.