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The Future of Legal Scholarship and Scholarly Communication: Publication in the Age of Cyberspace

by

David A. Rier*

There is a saying in the personal computer trade: "You can have it faster, cheaper, better *pick any two*." This axiom comes to mind when confronting how technology is redefining the publication process, more rapidly than we may realize. These changes may well make academic publication faster and cheaper. But given some of the tradeoffs involved, it is less clear that these changes always make publication better, as well.

In a recent paper (distributed electronically, in exemplification of the trends it discusses), Professor Bernard Hibbitts¹ examines the revolutionary potential of new technology for revising indeed, supplanting what has been one of the most tradition-bound of scholarly endeavors: the law review.

In Part I of this paper, I will review the essentials of Hibbitts's discussion, and his argument that electronic self-publication of legal scholarship soon will and should replace the edited, printed law review as we know it today. In Part II, I apply sociological analysis to explore some special features of the audience for and functions of legal scholarship. I will build upon this discussion in Part III, which explains why legal scholarship is a poor candidate for electronic self-publication, and why self-publication is a poor use of the Internet's potential for scholarly communication. In the concluding Part IV, I outline some counter-proposals for improving legal scholarship and scholarly communication in light of new dissemination technologies.

I. The Hibbitts Proposal

Because later in this article I will be compelled vigorously to disagree with certain of the recommendations Professor Hibbitts offers, it is pleasing to begin on a happier note. I thus hasten to applaud him for confronting the changes which legal scholarship is likely to face in coming years as a result of the rapid advances in computerized communication.

Beyond this overall achievement, his paper is also valuable for reminding us that even an apparently inevitable, seemingly-permanent institution such as the law review is along with scientific publication in general,² the experimental physics journal in particular,³ (as well, indeed, as the bicycle⁴ and the machine gun⁵) actually the product of a certain era, representing a confluence of institutional and technological factors. For the law review, according to Hibbitts, chief among the institutional pressures were the desires of law faculty to: 1) give their students the legal training needed to secure them good jobs; 2) strengthen their standing, and that of their school, among the practicing bar; 3) improve ties to alumni, both to strengthen their schools' financial bases and improve job placement of graduates; and 4) improve their academic status within the university, at a time when the German model of the research university was growing more influential.

The rapid growth of law reviews is partly explained by their ability to play all of these roles, in addition to serving a gatekeeping function, giving professors a way to identify their top students for recruiting employers. Finally, of course, law reviews offered a means of communication among practitioners, and, by serving as a law digest, helped them keep track of a growing volume of new legal material. Meanwhile, cheaper paper and faster printing technology made publishing much more efficient.

However, as Hibbitts points out, law reviews early in the twentieth century were already being criticized for their redundancy, with calls for specialization surfacing periodically.⁶ Indeed, Hibbitts shows that generations of users have condemned law reviews: for their length; their inept, over-aggressive editing and poor selection of articles by inexperienced student editors; their failure to provide educational benefits to any students save a small elite; their failure to provide even these elite students with educational benefits worth the enormous investments of time involved; their lack of peer review or faculty supervision; their publication of too much mediocre, poorly-written scholarship; their publication backlogs; their overuse of footnotes; their lack of utility to practicing lawyers and judges; and their over-emphasis on a limited range of topics.

Nevertheless, Hibbitts explains, law reviews have become even more important in recent decades. Growing publication pressures on faculty have made law reviews key gatekeepers in the selection, tenuring, and promotion of law professors.⁷ Meanwhile, however, as Hibbitts tells it, most attempted reforms have had only limited success.

Hibbitts proposes tapping the power of the ongoing revolution in computer communication to address the current woes of legal scholarship. Pointing to the power of LEXIS and WESTLAW, he describes how these services quite apart from their influence on other areas of legal research have tended to make use of law reviews easier, faster, cheaper.⁸ By offering the full text of published articles, these tools relieve scholars of their need to find the actual printed, bound volume on the shelves. Indeed, scholars do not, strictly speaking, need to depend nearly so much on the library itself. They can "dial up" the law reviews from their own living room, at any hour of the day or night. Moreover, the indexing capability speeds research by allowing rapid searching of law review material for key words. These databases also extend the potential readership for articles beyond those with access to law libraries, or to subscribers of specific journals. They also offer the possibility of conserving scarce library funds by limiting subscriptions to printed and bound editions of law reviews. Finally, as Hibbitts point out, this technology permits analysis of the extent to which given articles are cited by subsequent pieces, as a proxy measure of the influence of the scholarship.

For all this, though, Hibbitts observes that LEXIS and WESTLAW remain "conservative information technologies."⁹ As such, they do not go far enough. They fail to improve the selection and editing of articles, and do not end dependence on law reviews' publication schedules.

Hibbitts passes quickly over the transitional phase in which numerous journals some law reviews included already publish electronic versions to complement their traditional,

paper versions.¹⁰ He then discusses the possibility of avoiding paper publication entirely, by producing law reviews distributed solely electronically.¹¹ Originally, this was done via electronic mail, but is now more often accomplished through the technically more-advanced World Wide Web (Web), in which articles are placed in electronic archives which anyone or multiple anyone's, simultaneously may visit with the proper address. By 1995, indeed, four all-electronic law reviews had appeared.

Since such journals are no longer encumbered by being originally produced for the print format, several advantages accrue. First, they could be much cheaper and faster to produce. According to Hibbitts, this diminished overhead of time, energy, and money also improves the odds that busy faculty in lieu of the present law students could eventually be lured into editing them.¹² All-electronic journals ("e-journals") would also relieve libraries' burden of purchasing, cataloguing, and storing printed, bound journals. Simultaneously, they offer access to scholars lacking ready access to law libraries. Also, their independence from print format permits use of the technologies of multimedia and hypertext (discussed below) to enliven the text and ease subsequent research. The independence from print format also means, says Hibbitts, that editors would no longer be pressured to fill a set number of pages, and would not therefore have to accept and publish undeserving articles.¹³ Similarly, they can publish (i.e., archive electronically on a "Web-site") good articles immediately, without waiting until an "issue's worth" of appropriate material accumulates. The all-electronic format also makes subsequent updates and corrections of published material far easier. Moreover, Hibbitts states that post-publication feedback in the form of electronically-posted comments can be attached to articles to stimulate scholarly dialogue.¹⁴

Does the law-review-as-e-journal, then, represent the future of legal scholarship, the remedy for the law review's many ills? Hibbitts thinks not.¹⁵ For one thing, he notes, law reviews have been slow to convert to pure e-journal format, and even current efforts in that direction fail to make best use of the format's potential. Hibbitts suggests that the inherent conservatism of student (and, potentially, faculty) editors, combined with faculty's lack of sufficient interest, time, and editorial and computer skills with which to assume the editorial burden, militates against rapid adoption of innovative forms of the e-journal model. Also, Hibbitts states that even faculty-edited e-journals "are as vulnerable to intellectual capture and cooption as any print review."¹⁶

So, if the pure e-journal is not the solution, what is? Hibbitts's radical answer is briefly stated: "In the age of cyberspace, law professors can finally escape the straitjacket of the law reviews by publishing their own scholarship directly on the World Wide Web."¹⁷ To Hibbitts, the case for letting professors thereby "take complete control of the production and dissemination of their own scholarly work" is "clear and strong."¹⁸ Harking back to the days before printed scholarly journals appeared in the seventeenth century, Hibbitts observes that scholars once communicated new research findings by writing directly to one another.¹⁹ With the development of the scholarly journal, scholars forfeited some of their autonomy, being compelled to cede control over selection and editing of material in order to achieve wider, faster dissemination. To Hibbitts, such compromise has been

rendered obsolete by Web technology: the best way to respond to the delays, errors, and biases of edited journals, in other words, is to circumvent editors and journals altogether.

In the self-publication world Hibbitts envisions, law professors could write what they chose, in the style or format they chose, without worrying about editors being biased in their selection of articles or incompetently meddling in their editing. Upon finishing an article, an author could instantly "publish" it by depositing it, electronically, in an archive under their own "Web page," immediately available to anyone with access to a computer, modem, and the electronic "address" of the Web page. Authors also could repeatedly revise and correct their "publications." Hypertext technology allows readers almost instantly to retrieve related information. Thus, rather than merely reading a citation to another article, or to a certain circuit court decision, one could skip ("link") right to the full text of that material. Indeed, this could render obsolete the current (and widely disliked) obsession with the intricacies of the infamous Bluebook citation format. Another advantage is that Web articles could use multimedia to include non-print, audio-visual material, such as clips of actual court testimony, as parts of the article itself. Indeed, authors could "publish" clips of themselves speaking, thereby diminishing boundaries between teaching and scholarship. Also, Hibbitts observes that readers could e-mail their comments directly to the author; this feedback could spark rapid revisions, or could be appended to the published document, for later readers to view the thread of "post-publication" debate.²⁰

II. The Anomalous Position of Legal Scholarship: Audience and Function

Before assessing the suitability of legal scholarship for self-publication, we must examine certain special features of the audience for and function of the law review literature.²¹ First, it will be recalled that I lauded Hibbitts for explaining the creation and development of law reviews as resulting from a conjunction of institutional and technological factors. In short, law reviews arose and flourished because they served various needs (and because the enabling technology was in place). What about today? What institutional pressures drive the production and publication of legal scholarship?

This question is best answered with the aid of some handy sociological terms, and a comparison of legal and scientific publication. First the terms. Building on earlier work by anthropologists and other sociologists, sociologist Robert K. Merton explained that social activities or institutions can fulfill both manifest and latent functions.²² Manifest functions are explicit, acknowledged by participants as the main reason for the activity. Yet the same activity might simultaneously fulfill latent functions which, while valuable, are not necessarily planned or even recognized. Thus, the rain dances of Hopi Indians may not, in fact, fulfill their intended (manifest) function of bringing on rain yet they may fulfill the latent function of, say, reinforcing group identity.²³

What does a Hopi rain dance have to do with legal scholarship? Simply this: like the rain dance, law reviews have their manifest and latent functions although not necessarily in the expected order.

Now, this distinction will become clearer after a discussion of publication in science, not law. First, the centrality of the journal to science is undeniable.²⁴ Its purpose is also clear:

The rapid *communication of information is, of course, the most obvious function* The need to exchange ideas is fundamental to the notion of science and scholarship operating as a community, in which the journal not only is a repository of completed work, but also *is consulted by practitioners in all fields* in order to learn of work in progress [emphasis added].²⁵

Does the law review occupy the same position? Does it exist primarily²⁶ to convey information? Is it generally consulted by practitioners?

Not exactly. True, as in science, "[s]cholarship is the door to promotion, tenure, and salary increases" in academic law.²⁷ At the same time, however, one commentator claims that there are "no consumers of law reviews."²⁸ Observers from other disciplines may be surprised at the frankness with which even defenders of law reviews, such as Dean Harold Havighurst, could admit that:

law reviews are unique among publications in that *they do not exist because of any large demand on the part of a reading public*. Whereas most periodicals are published primarily in order that they may be read, the *law reviews are published primarily in order that they may be written . . .* the principal reason a law school publishes a review is not so much for the benefit of readers as for the benefit of writers [emphasis added].²⁹

Havighurst and others see the law review chiefly as an educational tool for training law students. It is worth stressing the singularity of this function. To the best of my knowledge, no other academic literature is ever defined as primarily or even largely a device for teaching students. Academics from other disciplines may thus be forgiven for protesting, "See, here! My students have to write term papers as part of their education, but I don't publish their papers and deposit them in libraries all over the country, do I? Why do you folks do it?"

Actually, similar complaints have been voiced within the academic legal community. One law professor, while willing to acknowledge the benefits to law students, asked "Does student work need to be published in so expensive a fashion if it is only for their education?"³⁰

Another, inspired by the old *Mission: Impossible* television series, went so far as to suggest: "If, for training reasons, a law review is considered essential at a particular institution it would be a great boon to the profession if the bulk of its contents were printed on flash paper, scheduled to self-destruct as soon as the training mission is over."³¹

However, it is not necessarily the writing, but rather the selection and editing, of legal scholarship which constitute the main benefits to students working on law reviews and

which, according to some, stimulate the primary demand for the legal scholarship of others. Note the apparent inversion of what would normally be regarded as the manifest and latent functions of legal scholarship in this observation by Professor George L. Priest of Yale Law School:

*The demand for law review articles is dominated, not by consumption by readers or subscribers, but by consumption of student editors The principal demand for legal scholarship is not demand by readers, searching for insights; it is a demand by editors, searching for material to edit The benefits to readers of modern scholarship are secondary benefits; the primary benefit is as material upon which students may exercise editorial judgment, thus improving their skills and, in turn, the reputations of their law schools [emphasis added].*³²

At least one law professor applies an explicit manifest/latent functional analysis:

The anthropologist might note that law reviews are among the most inefficient institutions in America but only if we assume that their purpose is the publication of legal scholarship. They are quite efficient if we conceive of their purpose more broadly as permitting law students to promote and perform legal scholarship³³

Some see the educational role as primary, but as being accompanied by other, almost equally-important functions all far more important than the ostensible manifest function of legal scholarship, conveying important knowledge to interested readers:

Use of law reviews is a means to a pedagogical end—the training of students Its original goal of serving the profession seems but a curious anachronism Today, law reviews are seen as a training ground for nascent lawyers, a requisite law student ticket punch on the route to legal stardom, a primary vehicle for the professoriate to attain tenure if not academic stardom, and, oh yes, a service to the profession.³⁴

Other commentators focus on the academic reward system within which professors operate as the primary cause of their production of law review articles. Resulting weaknesses in the scholarship produced under such conditions are mitigated by the lack of a readership to be harmed thereby:

Nowadays the goal of publication is much less to find answers than to avoid perishing in pursuit of promotion and tenure Could even a small percentage of this massive productivity (which law librarians privately label the Junk Stream) be worth readers' whiles? And, one must hasten to ask, *what* readers? Most reviews have very limited circulations, consisting primarily of libraries and alumni. Few in the latter group pay any attention to the esoteric titles appearing on the cover, much less to the contents inside. For all the work professors put into law review articles, one would think they'd be able to attract a larger audience than the sprinkling of colleagues who skim through off-prints out of courtesy or the handful of students who may wade through them because they've been assigned. Even fewer practicing attorneys read such secondary sources out of non-billable interest. [emphasis in original]³⁵

Similarly,

most professors simply do not have anything to write about. Many professors only write articles or books because they must do so in order to get tenure, promotions, and raises . . . *We do not need to worry about the consumers of law reviews because they really do not exist.* A few professors who author texts must read some of the articles, but most volumes are purchased to decorate law school library shelves. The only purchasers of law reviews outside of academe are law firms which gladly pay for the volumes even though none reads them [emphasis added].³⁶

Readers may wonder at my reason for parading at such repetitive length these unflattering observations about legal scholarship.³⁷ It is this: the cumulative weight of these comments casts serious doubt on the wisdom of Hibbitts's self-publication program. For these quotations indicate that, given the importance of legal scholarship as a learning experience for students, or a vehicle of professional advancement for faculty, what would normally be considered a latent function in most other disciplines is, in law, *accepted* as the manifest function.³⁸

This is worth pondering for a moment. For, to those from other disciplines, such sanguine acceptance of the relative lack of readership for *an entire literature, as a whole*, is remarkable.³⁹ To be sure, it is extremely well understood in academic science that publication is essential to professional advancement, as measured by professional recognition, research grants and other resources, tenure, and promotion.⁴⁰ As such, it is not surprising that tenure and promotion pressures are important spurs to scientific publication. In one recent study of toxic-exposure epidemiologists, for example, most investigators quite cheerfully admitted that these incentives figured prominently in their motivation to conduct and publish research⁴¹ as did other factors, such as personal satisfaction and the chance to make an important contribution to the field.⁴² Indeed, the history of science offers several examples of even some of the most important discoveries being made by ambitious scientists who pursued glory and fame at least as hungrily as they did Truth.⁴³

However, seldom if ever would it occur to scientists that scientific work has no real readership, that it makes little contribution *except* strengthening their tenure cases. And certainly, scientists could not blithely accept that this doesn't make much difference. Of course, scientists are well aware that many papers are not, in fact, widely read⁴⁴ or cited,⁴⁵ and that much work is not high-quality.⁴⁶

However, scientists still accept that communication of meaningful (i.e., validated)⁴⁷ results to interested peers *is* the main (i.e., manifest) function of scientific publication, the "point" of the whole enterprise. As physicist John Ziman commented, "[u]ltimately, all our elaborate apparatus and skilled technicians exist only to add a few more pages to the books on the shelves" in the library.⁴⁸ Scientists thus view the absence of readership for and citations to their work as undesirable in the extreme. Under such conditions, in other words, *their primary goals are not met.*

Well, so what? If legal scholars apparently tolerate a different order of priorities, fine. If they are (more or less) content that their publications secure them academic advancement (and give bright students editorial practice), and scarcely expect that these articles make or are even intended to make genuine contributions to the scholarly community, so be it.

Perhaps. Yet certain other questions confront us. For instance, maybe this proves that the institutional reward system of academic law is seriously awry. Law schools need ways to identify faculty deserving of promotion and tenure. Surely, it is not coincidence that publication of legal scholarship, and not, say, professors' height or their ability to guess the number of jellybeans in a jar, emerged as the yardstick of faculty quality.

One might normally assume that publication was originally chosen because law review articles were a direct contribution to the legal community. However, it appears that faculty publication was chosen, instead, for benefits rendered somewhat less directly to this community. In recent decades, elite law schools have been particularly interested in securing a more respected position in the wider scholarly community within their universities. To help live down their "trade school" image, they placed growing emphasis on faculty publication the primary currency in circulation in other departments of these universities.⁴⁹ The increasing importance of publication at the more elite schools, in turn, has caused adoption of the same criterion at less elite schools, which seek improvements in their faculty's publication records (as measured by quantity and prestige of outlet) as a means towards higher ranking among law schools.⁵⁰

With such emphasis on publication of law review articles, law schools recapitulate their original embrace of the early law reviews, themselves, as *inter alia* a tool for securing greater respect within the university.⁵¹

In some ways, this reflects the tendency for classical professions such as law to emphasize their command over an abstract body of knowledge, grounded in dominant social values, as legitimization for their social authority and autonomy.⁵² Tellingly, one influential student of the professions states that "the true use of academic professional knowledge is less practical than symbolic."⁵³

However, law professors' quest for acceptance as "real scholars," which goal they pursue via adoption of an emphasis on scholarly publication, is actually more reminiscent of a somewhat different but analogous trend. Ironically, this trend involves, not the classical ("learned") professions, but occupations such as social work, nursing, and optometry, which aspired to achieve status as full-fledged professions. For such occupations correctly discerned the importance of abstract knowledge in justifying the power of classic professions. They therefore sought to codify or create their own bodies of abstract knowledge as a way (amongst various others, such as adoption of codes of ethics emphasizing service to humanity⁵⁴) to bolster their lobbying efforts for professional status⁵⁵ of which the professional research journals are byproduct and symbol.

Much of what appeared above about law review scholarship becomes clearer when we recognize that, when an occupation is "on the make,"⁵⁶ the content of the knowledge base is less important than its existence.⁵⁷ I submit the startling conclusion that to the extent that law schools have adopted the standard of scholarly publication as a means of aping the wider academic community from which they seek acceptance as peersthis powerful learned profession resembles *an occupation on the make*.⁵⁸ This explains why academic law so struggles to cloak itself in the ill-fitting garments of a model not designed for its ostensible (manifest) needs. For the growing emphasis on scholarly publicationa system designed to convey important, validated information to interested consumersseems poorly suited to a field in such overt doubt that its scholarship even has a genuine audience. Thus, we have a situation in which "[l]egal scholars, most particularly of the elite variety, seem to be more interested in gaining acceptance as participants in the intellectual life of the university than in communicating with other law professors, judges, lawyers, or law students to improve the quality of the practice of law."⁵⁹

Overall, the real importance of legal scholarship seems to lie in its functions of teaching device, promotion criterion, and badge of identity as a scholarly discipline. What gets lost in all this? Content. For the system as it now operates seems, as one thoughtful observer states, precisely the "antithesis" of "tak[ing] scholarship seriously in its own right, as an end in itself . . ."⁶⁰

A full discussion of the appropriate weights which teaching and writing should receive in promotion and tenure discussions lies well beyond the scope of the current article. However, perhaps elite law schools will one day be satisfied with their reputation amongst other disciplines within the university, and will feel less pressure to direct considerable energies towards production of additional scholarship whose value is primarily symbolic.⁶¹ When that day comes, perhaps theyand the lesser schools emulating themwill be ready to acknowledge that not allperhaps even fewprofessors are able to make genuine contributions to the literature,⁶² and will "let the writers be writers, the scholars scholars, teachers teachers . . . and give them credit accordingly."⁶³

III. Is Self Publication on the World-Wide-Web the Answer?

Electronic publication offers some important advantages to legal scholarship. This is true whether or not we need take its possibilities quite so far as Hibbitts suggests in order to reap them (and I will argue below that we need not, and should not). Perhaps the most powerful advantage is sheer convenience. Anyone who has experienced the minor thrill of being able to download abstracts from one's living room, late on a weekend night, can appreciate the liberating power of the computer as a research tool. Now, with the current ease of recovering even the full text of a wide range of material, this is even more potent a benefit. For scholars who are also parents of pre-school children, elderly or disabled, or working in other disciplines, based at institutions lacking law libraries, such convenience can make the difference between productivity and unproductivity.

As Hibbitts rightly observes, no longer will scholars be blocked from access to an article by a volume's being in use or misfiled. No longer will scholars have to roam the study carrels of the library looking for that key volume. The entire scholarly community can read an article simultaneously, even when the libraries are closed.⁶⁴ Also, users would no longer need to lug weighty tomes to the copy room, or fumble for quarters or copy cards. Those preferring not to read entire articles on computer screens can print their selections out, straight from the computer, to retain the portability, ease of annotation, and sheer familiarity of paper scholarship.

Obviously, there is also the speed of bypassing the print shop and the post office, delays which can only add to the costs and detract from the timeliness of published legal scholarship. The cost argument is particularly important in times of tight budgets and rising costs of production, distribution, subscriptions, and storage.⁶⁵

The hypertext capabilities of electronic publication also have some powerful appeals for legal scholars. The ability instantly to retrieve articles and opinions cited in a law review article can save enormous amounts of time. In so doing, hypertext could conceivably encourage more careful, thorough research, as scholars can rapidly "follow the thread" of legal issues.⁶⁶ Moreover, as Hibbitts rightly notes, the technologies of hypertext and multimedia can, by providing the original versions of cited material, reduce distortion:

Individuals working in the legal system or otherwise involved in the legal process as judges, lawyers, clients, witnesses or family members will be heard and seen for themselves in legal scholarship, instead of being (re)presented and (mis)understood through the filter of words written on a page.⁶⁷

Such advantages seem compelling. However, it is critical to keep in mind that most are attainable through shifts towards electronic publication which stop well short of Hibbitts's "scorched earth" proposal to do away with editors and journals entirely.

True, there *is* an appealing elegance to the concept of self- publication. In its purest form, after all, scholarly publication is merely a communication device:

Why are we scholars if it is not to make a contribution to knowledge and inquiry? And surely that contribution is made only if we are read by and influence the work of our fellow scholars, present and future. The scholar/scientist, in other words, wants to reach his peers' eyeballs so as to influence the contents of their minds⁶⁸

Existing software already gives scholars the ability to do for themselves much if not most of the technical production work formerly available only from publishers and printers.⁶⁹ By eliminating these middlemen along with journals' editorial staffs, of course self-publication would seem to provide the quickest means to achieving the central goal of communication to peers.

However, as might have been predicted based on the previous section, self-publication is particularly ill-suited to legal scholarship. Indeed, this section explores two fundamental flaws in the Hibbitts proposal. First, it constitutes a solution in search of a problem. Second, because Hibbitts both misunderstands the system of scholarly communication (and how it can put to best use the power of cyberspace), and neglects the continuing importance of the institutional pressures driving legal scholarship, his system would needlessly undermine the quality of legal scholarship, and would also face major obstacles to widespread adoption.

A. Legal Scholarship as a Candidate for Web Self-Publication

As suggested above, considerable savings of time and money are possible with electronic publication of legal scholarship. In the present context, however, the more radical step of self-publication on the Web (i.e., avoiding the law review altogether and lunging straight for the readers' eyeballs) seems to be necessary only if two conditions are met. One, that there exists a population of eager readers whose eyeballs hunger for legal scholarship served up instantly. And, two, that these eyeballs are currently being starved by biased, incompetent editors who aided and abetted by their outmoded, cumbersome methods of dissemination keep this vital scholarly nourishment from seeing the light of day.

Material presented in Part II should disabuse us of the notion that hordes of potential consumers are begging for more law review articles, and the sooner the better. Thus, why all the fuss about new technologies to place, at lightning speed, legal scholarship in the hands of these non-existent consumers? Such innovation seems singularly wasted on legal scholarship. To paraphrase the title of a sociology of knowledge article, "[i]f instant dissemination is the solution, what is the problem?"⁷⁰

But what about the second condition? Is it true that, under the present system, fads, biases, or sheer ignorance on the part of editors wind up suppressing valuable scholarship? Here, too, the condition seems to go unfulfilled. First, editors typically insist that the distribution of topics represented by what they publish is a direct reflection of what they are submitted:

[W]e publish what we get, and in more or less the same proportions in which we get it. This is not simply a matter of professors catering to our desires. If professors were not the source of most subject-matter bias, their writing would likely shift to different fields after they received tenure. Yet we have found that submissions from tenured professors continue to concentrate on corporate law, constitutional law, and other federal topics.⁷¹

In other disciplines, similar claims are routinely made by seasoned faculty editors.⁷²

But suppose that Hibbitts is correct that editorial biases and fads do influence manuscript selection.⁷³ This would still seem to pose few real obstacles to publication in an environment where authors can submit the same article to a score of journals simultaneously and where the market favors the seller. One observer remarks upon the

"huge excess capacity of the law review industry (hundreds of law reviews chasing a relatively small number of worthwhile articles)"74

Similarly: "the redundancy of student journals does offer one safeguard: it is highly unlikely that any meritorious article will not get published somewhere."75 In fact, "[i]n what other field is publication of a tenure piece so easily possible?"76 Similarly, the redundancy of student journals does offer one safeguard: it is highly unlikely that any meritorious article will not get published somewhere.⁷⁷

This happy truth is no secret among authors. "[I]sn't it wonderful to have so many possible places to publish? With less prestigious publications crying for material, it is hard to imagine any manuscript, no matter how amateurishly done, failing to find a home eventually."78 Moreover, "[a]nother advantage of student editing is that we have many more journals than needed, giving us more places to publish."⁷⁹

There is also some empirical support for assertions that editorial biases cannot keep articles from being published. Based on data collected from interviews with senior law review editors at thirty-seven law schools (and on mailed responses from editors at another six), one study of editorial practices concluded that "the large number of law reviews ensures that interesting and persuasive ideas affecting and involving the legal system generally find expression in periodicals operating at appropriate levels of influence. If one journal's policies and procedures cause it to reject a meritorious work, another of roughly equal rank is likely to pick it up."⁸⁰

If anything, the problem is more likely in the opposite direction. "In the end, nearly all the good ones and far too many of the bad are published"81

B. Scholarly Communication, Quality, and the Institutional Context

According to Hibbitts, advances in technology give us the opportunity to circumvent fully what he regards as a hopelessly defective editorial system. Since, he argues, peer-review as it exists in other disciplines is rare in legal scholarship, and since most journals continue to be run by students, not faculty, he sees little lost in dispensing with law reviews completely. We will see that this policy is needlessly radical, and harmful.

1. Peer Review in Science

A more fundamental problem, however, is Hibbitts's apparent misunderstanding of the value of scholarship and scholarly communication. Traditionally, the very purpose of science has been considered to be the production of "certified knowledge."⁸² Indeed, Crane claims that the peer-reviewed, published article's function as a "statement of knowledge that has been validated and found acceptable by peers" is actually *more* important than its presumptive role of simply transmitting information.⁸³ What makes the paper so important is that, *by the time it appears* in a journal, the material contained within it has already withstood various institutional tests, or "critical evaluation[s]."⁸⁴ These evaluations may have included peer-review of the research question and

methodology by funding agencies, peer-review of the data and their interpretation for presentation of abstracts or papers to a conference, as well as comments and criticisms from the audiences of conferences or faculty seminars. Less formal stages might have included comments from colleagues who consented to read earlier drafts of the manuscript, or even fell into conversations over coffee.⁸⁵

However, by far the most significant stage is peer review by the journal:

[T]he fundamental premise on which rests the crucial role of the journal in the research enterprise is the trust of the community in a process that results in the published journal article. Of course, this trust originates in the selection of only a few manuscripts from among the many submitted to the journal editor for consideration of publication. Review of the manuscripts *by peers in the field who are qualified to judge the significance of the contribution* has been the basis of the substantive role of the journal since its beginnings in the seventeenth century The peer review process that regulates the growth of knowledge . . . is essential to the quality of information as well as to the dialectic on which the scholarly communication system depends [emphasis added].⁸⁶

Indeed, "[t]he referee is the lynchpin about which the whole business of Science is pivoted."⁸⁷

One subtle advantage of peer review is that it can lead authors to internalize higher standards.⁸⁸ Now, peer review surely has its critics. Of most relevance to our discussion is the complaint that reviewers may reject work which is later shown to be important.⁸⁹ However, here, too, there seems little risk that truly important papers languish unpublished for long:

[I]n all fields virtually everything that is written gets published somewhere; in the social sciences a manuscript may be submitted to a succession of lower and lower standard journals until it finds its niche; in physics authors may head more directly for something within their reach the first time round There is not much risk that a truly valuable piece of work will fail to be published⁹⁰

Despite problems, the system seems to work, more or less, as it should.⁹¹ Harnad gets it just about right: "Like democracy, it has imperfections, but it has no viable alternatives, whether on paper or on the electronic airwaves."⁹²

Given Hibbitts's willingness to dispense with peer review, it is interesting that Harnad, one of the most innovative figures in electronic publishing, so adamantly declares its importance:

There is only one sector in which the Net will have to be traditional, and that is in the validation of scholarly ideas and findings by peer review. Refereeing can be implemented much more rapidly, equitably, and efficiently on the Net, but it cannot be dispensed with, as many naive enthusiasts (who equate it with "censorship") seem to think.⁹³

Additional compelling evidence for the importance of peer review comes from the aftermath of Paul Ginsparg's creation of an electronic archive of high-energy physics articles, deposited as pre-prints prior to actual publication in a journal. As Hibbitts notes approvingly, the speed and cheapness of this system has helped it virtually to replace the formal journal as the primary channel of dissemination in its field. However, this is only half the story. Ginsparg and his colleagues responding to fears that electronic pre-print archives might destroy, along with the traditional journal, a very valuable system of peer review recently began to investigate how to add a form of peer-review to the electronic archive system. They ended up planning a fully peer-reviewed, all-electronic journal, with a submission system integrated with that of the existing pre-print archive.⁹⁴ Ironically, John Ziman predicted over a quarter of a century ago that pre-print exchanges would wind up re-inventing both the journal *and* the referee.⁹⁵

2. Institutional Functions of Legal Scholarship, and the Implications for Adoption of Web Self-Publication

Indeed, the following quotation, from a study (published on-line) assessing the adoption of electronic publication, hints at the reason for the importance of peer review to electronic publication: "Refereeing of some sort, it is widely regarded, will be indispensable if on-line journals are to claim large numbers of users."⁹⁶

This brings us to what Hibbitts forgot:

The objective of those of us who have glimpsed this medium's full potential is to establish on the Net an electronic counterpart of the "prestige" hierarchy among learned paper journals in each discipline. *Only then will serious scholars and scientists be ready to entrust their work to them, academic institutions ready to accord that work due credit, and readers able to find their way to it amidst the anarchic background noise [emphasis added].*⁹⁷

While explaining well why publication once filled various functions for law professors and law schools, Hibbitts neglected to fully extend his analysis to the present for law reviews still do fulfill some of these functions. Proceeding from this fact, we will immediately see that Web self-publication would not fulfill one of the prime functions the legal academic community requires from its literature. It is this problem which poses perhaps the most serious obstacle to the adoption of Hibbitts's proposal.

Hibbitts does recognize that self publication would deprive articles of the "halo effect" emanating from placement in a prestigious outlet.⁹⁸ Yet he dismisses such an effect as unworthy of serious scholarship, and suggests that abandonment of the current system of publication could allow refocussing of the "attention of law professors on doing their scholarly work for its own sake, rather than playing the placement 'game.'"⁹⁹ Now, it would be a fine thing indeed if articles were written for their own sake. But Web technology does not alter the fact that professors, especially those not yet tenured, can ill afford to "opt out" of a game that determines their professional fate. For surely, it is "the promotion and tenure process that drives the efforts of most legal writers."¹⁰⁰ The true

audience is thus comprised primarily of deans and other members of tenure and promotion committees.¹⁰¹

Here, it is worth observing that the scholarly analogue to the realtor's focus on "location, location, location" is . . . "location, location, location." Young faculty in a wide range of disciplines are routinely advised that the prestige of the journals in which their work appears will be scrutinized closely at tenure time.¹⁰² Indeed, this emphasis is why, as Hibbitts observes, it is "especially reviews at the elite schools"¹⁰³ which today are swamped by manuscripts from hopeful authors, and why, as Hibbitts also mentions,¹⁰⁴ there exists the "tendency of law professors, lawyers and judges to cite, and more generally use, only a very few law reviews (essentially those from the 'elite' schools)."¹⁰⁵

This unequal distribution of prestige and influence is well understood, and is important to law schools in rewarding faculty production. Because of this, Hibbitts's proposal is truly ill-advised. For, if Hibbitts considers student editors, to say nothing of deans, etc., too conservative to embrace even e-publication of regular journals,¹⁰⁶ how will deans give approval to *self-publication*, without prior review? To paraphrase Willy Loman, it is not enough to be published you must be *well-published* (and certainly not *self-published*!).

Now let us take the next step, and briefly consider the direct consequences for adoption of self-publication. It is true that lawyers and law scholars do not yet, as do their counterparts in science, rely heavily upon informal communication via the Internet (about which, more below). However, as the current generation of students who may never have used a typewriter, who are already accustomed to corresponding (*sans* paper, envelopes, stamps, or delays longer than a minute or two) with their boyfriend in Ann Arbor, their brother in Seattle, and their parents in Fort Lauderdale through the Internet enters the legal academy, then wider adoption of other forms of electronic communication and on-line research are plausible next steps. Actually, this is already beginning. According to Posner, "law professors are chattering to each other over the Internet" (about, alas, "atrocities perpetrated by law review editors . . .")¹⁰⁷

Legal scholars will begin turning to the Net (and making the modest investments of time needed to learn the technology) exactly when they decide they are missing valuable information by sticking to paper scholarship. But when will this valuable on-line scholarship begin to appear? When authors have something to gain in other words, when the system will reward them for publishing on-line. After all, legal scholars (like many others), "are motivated primarily by the usual human desires for security, status, and income", which desires produce "eminently rational, selfish calculations."¹⁰⁸ Such calculations will lead professors to self-publish only when they are convinced that law schools deans and tenure/promotion committees will reward them for it. Until that day comes, against whom would you rather be competing for one tenure slot: a colleague who publishes in the *Columbia Law Review*, or one who publishes on her own Web page? . . . Me, too. Because these institutional pressures cannot be made to disappear by fiat, nor by

waving a technological wand, it is quite possible that Hibbitts's dismissal of pre-publication peer review dooms his proposal right from the start.

3. The Purpose of Scholarly Communication: The Quality Goes in *Before* the Paper Comes Out

However, there is something else. Hibbitts does allow for some form of quality control, but (except for a continuation of the current informal practice of circulating manuscripts to colleagues¹⁰⁹) it is largely *post*-[self]publication. Think back to our earlier discussion of how scientific publication in a peer-reviewed journal represents merely the culmination of earlier stages of assessment and review. Only at the end of this process was a full paper offered to the public. The process takes time, it is true, but the manuscript has surely benefited from its exposure to various stages of criticism and revision.

Now compare this to the Hibbitts model, in which the author instantly publishes the full paper, leaving it for the community to supply the review and criticism which might then be appended to the paper, or incorporated into later versions. This system would tend to penalize early readers of what may well not yet be a polished paper.¹¹⁰ By formally soliciting criticism, which he states he could incorporate into revised versions of the published paper, Hibbitts makes all of his readers do his work for him.

As the old computer programming expression goes, "garbage in, garbage out." Less crudely, much of the power of the scientific communication and publication model lies in the fact that valuable feedback and criticism is available early on, when it can do the most good *before* journal submission: "The prepublication phase of scientific inquiry, after all, is the one in which most of the cognitive work is done."¹¹¹ What has been said of science is true of legal scholarship as well: compared with asking the right question, and asking the question right, we might almost say that actually "answering the question is just a mopping-up operation."¹¹² An article is only as good as the thinking that preceded its publication.¹¹³ Simply put, Hibbitts has hooked up his scholarly communication system backwards.

For Internet discussion groups, mailing lists, and forums offer legal scholars matchless opportunities to refine questions, expand horizons and to see new connections between bodies of work. By beginning the formal communication and feedback process only with publication, Hibbitts misses these opportunities. In so doing, he would end up doing his readers the disservice of offering them an inferior product.

As a scholar, I do not want to function as editor and peer reviewer for every article I read. Further, in the time I would need to read and comment upon one finished paper, I would prefer critiquing several different ideas, each spelled out in a couple of paragraphs. If these represented colleagues' early expressions of their ideas, it could be a real pleasure to help shape them, and to participate in on-line debates about them. I would not have to find and wade through long, imperfectly thought-out papers. For the same reason, I strongly encourage my undergraduate students to submit outlines for my review prior to

writing their full term papers. Rather than correcting weaknesses after publication, I'd rather prevent them prior to publication. For, in the words of Oliver Wendell Holmes, *Senior*, the physician-father of the jurist:

And lo! the starry fold reveal/
The blazoned truth we hold so dear;/
To guard is better than to heal,/
The shield is nobler than the spear.114

Obviously, debate and criticism need not stop with publication. By all means, let the finished paper spark lively, inter-continental debate on e-mail bulletin boards (as do both preliminary ideas and newly-published books and articles on the Science and Technology Studies electronic bulletin board in my own field). But let that paper be worthy of our time.

This issue is critical. As technology lets us deliver information ever faster and cheaper, it becomes even more crucial to remember that the quality of the delivery system is no guarantee of the quality of the contents.115 In fact, this paper opened with mention of the tradeoff between faster, cheaper, and better. As an unkind Spanish proverb puts it, the monkey may dress in silk, but she remains a monkey. However handy hypertext and related electronic capabilities may prove, trivial or poorly-written legal scholarship is not magically transformed into crisp, important work merely by its appearance on the Web.116

This is of specific concern in our discussion of Web self-publication. The value of improved access is only as great as the quality of the material. For all the gains in efficiency produced by being able to download material from one's home computer, Web self-publication does not add any hours to the day. To the extent that it removes even such limited pre-publication editorial improvement as exists under the current system,117 and since its primary result is to remove most obstacles to publication (e.g., editorial input and criticism and the turnaround time of shepherding a manuscript through the publication process), it will tend to increase the volume but not the quality of the literature. Even with electronic indexing, the reader is not necessarily advantaged by having to sort through twenty-five mediocre Web-published articles to find two solid ones.

This is especially serious for legal scholarship. Unlike articles in physics, math, or epidemiology, much of whose meat is often extracted by perusing a few key tables or equations, law review articles must be *read*. Unlike many papers in fields ranging from medicine to sociology, there is no rapid way to attempt to assess a paper's value. If I see from the abstract or methods section that a randomized clinical trial did not employ blinding of subjects or researchers, or that a public opinion survey purporting to make inferences to all New York City voters actually questioned only the patrons of a single bar in Queens, then I can quickly decide to skip the paper. How can a reader come to a similarly brisk filtering decision with legal scholarship? For such reasons, strategies which hasten and enlarge the flow of legal scholarship (so much less concise than in

physics, with its high speed pre-print archive discussed earlier) must be approached with the utmost caution.

Overall, post-publication comment and revision are no substitute for pre-publication thought, discussion, review, and revision.

IV. Counter-Proposals and Conclusion

A formal discussion of ways to improve legal scholarship lies beyond the scope of this paper. However, the preceding analysis does suggest a few lines of reform.

First, in order to improve the value of legal scholarship to its readers, to make it a more powerful (and respected) tool for meeting institutional goals of acceptance by other disciplines, and a more valid way of identifying talented legal scholars, review standards must be strengthened, not abolished.

This goal, itself, requires certain other changes. Today, effective review is hampered by both the enormous number and length of manuscripts submitted to law reviews.¹¹⁸ The current situation exists mainly because, unlike most journals in other fields, law reviews permit multiple submissions. Though the conditions currently existing in legal scholarship would make many scholars from other disciplines drool with envy, such a "seller's market" which constitutes professional misconduct in other disciplines¹¹⁹ is a luxury the swamped editorial system can no longer afford.

As a transitional stage, perhaps authors would be required to submit to no more than three or five journals at a time. Similarly, page limits would also improve the chances for more attentive review. A carrot-and-stick approach might be appropriate here: authors submitting shorter manuscripts could be promised faster decisions, for example.

Having thus reduced the volume of material to a somewhat more manageable amount, review, itself, can be improved. Perhaps this can be accomplished through greater reliance on faculty reviewers and editors. True, this role is not currently a widely accepted or valued one among law professors (here, too, legal scholarship differs from that of virtually all other fields). However, as discussed above, relying on student reviewers makes students the de facto gatekeepers for their professors' career advancement. It would do well for professors to dwell on that bizarre fact. If faculty are not, in fact, interested in "taking charge," in taking "responsibility for the monster [their] predecessors created" by reasserting control over the law reviews,¹²⁰ then this suggests that the law review and its weaknesses are irrelevant to them.

Assuming this is not, in fact, the case, several options exist. First, more faculty could engage in editing their own journals, applying to article selection and editing the judgment and perspective which even the brightest students could scarcely bring to these tasks.¹²¹ Another approach, favored by Lindgren for law reviews at better schools, is for faculty to increase supervision, and supply students more formally with the skills needed for editing law reviews. In his "editorial seminar model," faculty assist students in

reading manuscripts, and conduct seminars focusing on proper techniques of manuscript evaluation.¹²² For law reviews at non-elite schools, he makes the very reasonable suggestion of encouraging specialization via symposium issues or even converting the generalist journal into a fully specialist journal. This would make it easier even for students to gain mastery of a field well enough to make judgments about the value of a given article, and would improve the odds of identifying willing, competent reviewers, as editors grow more familiar with the experts in a given area. As Lindgren points out, "[s]pecialization breeds competence."¹²³

It would also produce a more valuable contribution. Surely the first few articles to confront issues such as the Internet and intellectual property, computer software and copyright, surrogate motherhood (or, indeed, the possibility of Web self-publication), marked contributions to legal scholarship orders of magnitude greater than did the three-thousandth article on, say, *Miranda*, or free speech.

Ironically, as many other fields confront the fragmentation resulting from ever more narrow specialization, law needs to correct the opposite imbalance, its relative under-specialization. Indeed, growing specialization has already begun to strengthen legal scholarship.¹²⁴

What of the age of cyberspace? How best to confront the possibilities looming on the horizon? Why not begin converting the law reviews to electronic publication? Without going so far as to eliminate editorial boards altogether (and, as a supplement to the editorial reforms suggested above), there is no reason not to enjoy the fruits of the electronic era of publication. Law reviews could add articles to their Web page, or mail them electronically to their subscribers, on a "rolling" basis, as soon as they are accepted without having to wait for an issue's worth of material for the Fall issue, for example. Hypertext links could be added wherever appropriate. This would improve efficiency (including the powerful facility for automatic indexing) without incurring the evils of self-publication discussed in the previous section.

To overcome the natural conservatism and inertia of the legal academy, which might as Hibbitts feared¹²⁵ impede acceptance of electronic dissemination, the "stealth journal" approach might be best. The peer-reviewed *Journal of Artificial Intelligence* has been able to blunt resistance by: 1) continuing to publish a paper edition; and, more importantly, by 2) formatting the electronic version to look as much like a formal paper version as possible. Thus, when such electronic articles are printed out, they are essentially indistinguishable from copies of the print version.¹²⁶

Finally, best use of the benefits of cyberspace is made by stimulating free exchange of ideas, at early stages of their development. This has already transformed my own specialty, social studies of science much of whose vitality comes from open, international debates about emerging issues, conducted through Internet discussion groups. To be sure, legal scholarship and scientific research are not identical. The norms of scholarly exchange are not as strongly institutionalized in legal scholarship as they are in science. An outsider gains the impression that, in the culture of the legal academy, scholarship is a

more private, proprietary affair, with scholars less likely to float ideas in non-journal forums. Yet, perhaps some of the culture of science would be a welcome tonic for legal scholarship, particularly now that Internet has made informal exchange so much faster, cheaper, easier.

This is the best use of the power of cyberspace. For, as Stevan Harnad observed in his provocative discussion of such activity as "scholarly skywriting." "How many are the stillborn thoughts that might have survived and flourished if they had but been stimulated by feedback at the right time, when they were still active in one's mind?"¹²⁷

The technologies of the Internet are powerful. They deserve to be used wisely.

Between the time Professor Rier submitted his manuscript to the Akron Law Review and the time it went to press, the Duke Law Journal instituted a program similar to Professor Rier's suggestion for limiting multiple submission of articles. The Duke Law Journal will now offer authors acceptance or rejection within twenty days of receipt of a manuscript if the author submits to no more than five other journals, and agrees to accept the first offer of publication. Although Duke's program is voluntary, the problems Professor Rier traced to unlimited multiple submissions may be lessened or solved if this program becomes popular. Eds.

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1. Bernard J. Hibbitts, *Last Writes? Re-assessing the Law Review in the Age of Cyberspace* <<http://www.law.pitt.edu/hibbitts/last.htm>> (version 1.0, Feb. 5, 1996).
2. See Henry E. Lowood & Robin E. Rider, *Literary Technology and Typographic Culture: The Instrument of Print in Early Modern Science* 2 (1) *Persp. on Sci.* 1, 1 (1994).
3. See Charles Bazerman, *Modern Evolution of the Experimental Report in Physics: Spectroscopic Articles in Physical Review, 1893-1980*, 14 *Soc. Stud. Sci.* 163, 166 (1984).
4. See Trevor J. Pinch & Wiebe E. Bijker, *The Social Construction of Facts and Artifacts or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other*, in *The Social Construction of Technological Systems* 17, 17-50 (Wiebe & Bijker et al. eds, 1994).
5. John Ellis, *The Social History of the Machine Gun* 1 (1975).
6. Hibbitts, *supra* note 1, at text accompanying nn.57-58.
7. *Id.* at text accompanying nn.119-32.
8. *Id.* at text accompanying nn.213-15.
9. *Id.* at text accompanying n.216.
10. Perhaps the particular advantage of which would be the early and rapid dissemination of articles, without waiting for printing and mailing delays.
11. See Hibbitts, *supra* note 1, at text accompanying nn.223-27.
12. *Id.* at text accompanying n.223.
13. *Id.* at text accompanying nn.223-24.
14. *Id.* at text accompanying n.223.
15. *Id.* at text accompanying n.225.
16. *Id.* at text accompanying n.226.

17. *Id.* at text accompanying n.228.
18. *Id.* at text accompanying n.230.
19. *Id.* at text accompanying n.228.
20. *Id.* at text accompanying n.234.
21. Certain other aspects of this literature, such as its lack of peer review and its being edited by students, will be discussed in some detail in a later section.
22. See Robert K. Merton, *Social Theory and Social Structure* 110-19 (2d ed. 1968).
23. *Id.* at 118-19.
24. "[P]ublication is the lifeblood of science Journals and the articles they contain . . . drive, and perhaps define, the scientific enterprise." Daryl E. Chubin & Edward J. Hackett, *Peerless Science: Peer Review and U.S. Science Policy* 83 (1990). It is true that, in certain new fields such as AIDS, the role of non-journal sources of scientific information, such as grassroots newsletters, has been important. Debbie Indyk & David A. Rier, *Grassroots AIDS Knowledge: Implications for the Boundaries of Science and Collective Action*, 15 *Knowledge: Creation, Diffusion, Utilization* 3, 4-11 (1993). However, the preeminence of the journal still remains the rule, rather than the exception in science.
25. Charles B. Osburn, *The Place of the Journal in the Scholarly Communications System*, 28 *Library Resources & Technical Services* 315, 321 (1984).
26. The chief secondary function of the scientific literature is as a determinant of the allocation of promotion, tenure, and other institutional rewards. See Warren Hagstrom, *The Scientific Community* 37 (1965); G. Nigel Gilbert, *The Transformation of Research Findings into Scientific Knowledge*, 6 *Soc. Stud. Science* 281, 298 (1976). Perhaps the greatest of these rewards has been "recognition and esteem" from peers, traditionally the sole "property rights" available to academic scientists according to institutional norms of science, which emphasize the free exchange of information. Merton, *supra* note 22 at 610. However, there are signs that recent changes, such as funding constraints, have helped legitimate more tangible property rights in academic science. See Henry Etzkowitz, *Entrepreneurial Science in the Academy: A Case of the Transformation of Norms*, 36 *Soc. Probs.* 14, 15 (1989); Diana B. Dutton & Nancy E. Pfund, *Genetic Engineering: Science and Social Responsibility*, in *Worse Than the Disease: Pitfalls of Medical Progress* 174, 209-10 (D. Dutton ed., 1988).
27. Arthur Austin, *The Reliability of Citation Counts in Judgments on Promotion, Tenure, and Status*, 35 *Ariz. L. Rev.* 829, 829 (1993).

28. Leo P. Martinez, *Babies, Bathwater, and Law Reviews*, 47 Stan. L. Rev. 1139, 1143 (1995).
29. Harold C. Havighurst, *Law Reviews and Legal Education*, 51 N.W. L. Rev. 22, 24 (1956).
30. Banks McDowell, *The Audiences for Legal Scholarship*, 40 J. Legal Educ. 261, 268 (1990).
31. John F. T. Murray, *Publish and Perish By Suffocation*, 27 J. Legal Educ. 566, 570-71 (1975).
32. George L. Priest, *Triumphs or Failings of Modern Legal Scholarship and the Conditions of its Production*, 63 U. Colo. L. Rev. 725, 726-27 (1992).
33. Robert Weisberg, *Some Ways to Think About Law Reviews*, 47 Stan. L. Rev. 1147, 1149 (1995).
34. Martinez, *supra* note 28, at 1140-41.
35. Kenneth Lasson, *Scholarship Run Amok: Excesses in the Pursuit of Truth and Tenure*, 103 Harv. L. Rev. 926, 927-28 (1990).
36. John E. Nowak, *Woe Unto You, Law Reviews!*, 27 Ariz. L. Rev. 317, 319-21 (1985).
37. Obviously, some of what appeared in the quotes presented above constitutes hyperbole. Contemporary law reviews clearly do not go completely unread. Thus, while there is empirical evidence that, for example, Supreme Court decisions are citing law review articles less frequently than in the past. Louis J. Sirico & Jeffrey B. Margulies, *The Citing of Law Reviews by the Supreme Court: An Empirical Study*, 34 UCLA L. Rev. 131, 134 (1986). Judge Richard Posner assures us that law reviews are, at least in an archival capacity, "indispensable resources for judges and their clerks". Richard A. Posner, *The Future of the Student-Edited Law Review*, 47 Stan. L. Rev. 1131, 1137-38 (1995). Leibman and White, similarly, claim that law reviews "serve as reference material waiting quietly in libraries for scholarships, judges, students, and practitioners who need help in solving legal problems and in selling their solutions to the world." Jordan H. Leibman & James P. White, *How the Student-Edited Law Journals Make Their Publication Decision*, 39 J. Legal Educ. 387, 397 (1989). Still, Leibman and White concede, "No one can say for sure to what extent law review materials are used." *Id.* at 398. And, as discussed below, it remains striking that the audience is so widely considered to be peripheral to the functions of legal scholarship.
38. Indeed, even Hibbitts, consciously or not, appears to agree. In discussing the possibility that faculty assume editorial duties, he worries that, "the outlets for scholarly publication would be radically reduced." Hibbitts, *supra* note 1, at text accompanying

n.226. He calls this in a revealing look at his order of priorities "a development that could have a devastating impact on the careers of many legal scholars, not to mention on legal literature as a whole." *Id.* Apparently, frustrated readers would not be the major unfortunate consequence if some law reviews were to shut down. Moreover, given his thorough dissatisfaction with law reviews as they exist today, this concern reminds us of the diners who complained:

Diner #1: "This food is inedible! It's poisoning me!

Diner #2: "Right! *And such small portions!*"

39. Interestingly, Leibman and White attempt to dispute this singularity but their own evidence contradicts them. While allowing that, "there is something to the statement that law reviews are published primarily in order that they be written," they continue that, "they are not at all unique in that regard." Leibman & White, *supra* note 37, at 398 (quoting Havighurst, *supra* note 24, at 24). First of all, however, the basis for the statement they quote here is, of course, Dean Havighurst who, it is worth remarking, omitted the qualifier "primarily." Indeed, Leibman and White's citation refers the reader back to their footnote on the previous page, which presents the fuller Havighurst quotation:

This leads me to a remark that *law reviews are unique among publications* in that they do not exist because of any large demand on the part of a reading public. Whereas most publications are published in order that they may be read, the law reviews are published in order that they may be written [emphasis added].

Id. at 397 (quoting Havighurst, *supra* note 29, at 24).

In the accompanying text to which note 43 pertains, they state, "[c]ritics are correct that virtually no one reads issues of generalist law reviews as they do news magazines or even trade publications" *Id.* at 397. However, had Havighurst meant his statement to distinguish scholarly literature, on the one hand, merely from news magazines and trade publications, on the other, then he would have claimed that "scholarly journals" instead of simply "law reviews" "are unique." Furthermore, Leibman and White's support for their statement (quoted at the top of this note) that law reviews "are not at all unique" in their lack of readership, is a newspaper interview with an information scientist who states of the basic scholarly journals, "the best read articles in a standard disciplinary based journal will be read, at most, by 2 percent of the people who receive it. We found there were almost no readers." *Id.* at 398 n.47.

Yet, this statement by no means implies that the audience was not an important factor in the production of such scholarship (as it appears not to be truly a factor in the production of legal scholarship). Nor does the statement that a given article is read by only a small percentage of the journal's subscribers mean that there is no appropriate readership. For, it is the goal of the author to reach "the right 2 percent" of his field. This stems largely from the specialization and differentiation (not to say fragmentation) which, while not as

highly developed in law, is the rule in most fields. Thus, as a sociologist of science and medicine, I routinely ignore most of the *American Journal of Sociology's* many articles on topics, such as social mobility, which lie outside my range of interests just as a psychiatrist might skip the *New England Journal of Medicine's* articles on infectious disease. There is surely a price paid for such narrowness, but it is almost unavoidable given the volume of material published in most fields; "[i]t may even be claimed that the modern scientist need not read any more journals than his predecessorshe simply narrows his vision until he takes in about as much material as before, over a more limited and specialized range." John Ziman, *Information, Communication, Knowledge*, 224 *Nature* 318, 322 (1969).

Even in my discipline's medical sociology journal, *Journal of Health and Social Behavior*, I read only a small percentage of the articles, because my interests lie outside its leading topics, stress and social supports. Yet I do read carefully most of those few pieces which happen to bear closely on my specific research interests.

40. See Hagstrom, *supra* note 26, at 35; Jonathan R. Cole & Stephen Cole, *Social Stratification in Science* 90 (1973); and G. Nigel Gilbert, *The Transformation of Research Findings into Scientific Knowledge*, 6 *Soc. Stud. Science* 281, 298 (1976).

41. David A. Rier, *Publication and Controversy in Epidemiology: Investigators' Publication Decisions* 164 (1995) (unpublished Ph.D. dissertation, Columbia University) (on file with the Columbia University Library).

42. *Id.* at 166. One scientist-subject in this research went so far as to describe his motivation thusly:

[B]ecause good things happen to people when they publish. They get to go to meetings, they get a little notoriety. I was admired by my friends, ultimately I got promoted, you know, things like that. There're no ifs, ands, or buts about it: you get M&M's [goodies] out of it, personal M&M's. *I'm not here to solve society's problems*, although that's an M&M if you do something that does solve a problem One enjoys seeing one's name in print, one enjoys doing a good piece of work . . . admiring your own prose, and having other people admiring it.

Id. at 164.

43. Robert K. Merton, *Priorities in Scientific Discovery: A Chapter in the Sociology of Science*, 22 *Am. Soc. Rev.* 635, 637 (1957). See also James D. Watson, *The Double Helix* 94, 94-95 (G.S. Stent ed. 1980) (noting Watson and Crick's joy that Linus Pauling's error prevented his beating them to a Nobel Prize for the discovery of the structure of DNA.). To be sure, as Merton has noted elsewhere, such reactions can be considered wholly normative responses to the institutional reward system in science. See Watson, *supra* at 213-18. Sometimes, though, competitive pressures lead scientists to walk a thin ethical line at best. For a contemporary case, consider the controversy over whether

Robert Gallo or Luc Montaigner was first to discover the HIV virus. See Elinor Burkett, *The Gravest Show on Earth: America in the Age of AIDS* 28-32, 34-36, 40-47 (1995).

44. Often, specialization almost guarantees a narrow readership. Of course, this sentence is true in *both* senses; specialization also increases the odds of publishing something which could interest at least the small number of colleagues working in the same narrow research area.

45. According to one controversial citation analysis (computer-generated counts of citations to given scientific or scholarly articles by subsequent articles) 55% of papers published between 1981-85 received no citations whatsoever within five years after their appearance. David P. Hamilton, *Publishing by and For? the Numbers*, 250 *Sci.* 1331, 1331 (1990) [hereinafter Hamilton, *Publishing*]. See generally Eugene Garfield, *Is Citation Analysis a Legitimate Evaluation Tool?*, 1 *Scientometric* 359, 359 (1979). When the same study looked at breakdowns by discipline, interestingly, it found wide variances in the sciences, ranging from a low of 9.2% of papers in atomic, molecular, and chemical physics remaining uncited, to 86.9% of engineering papers remaining uncited. David P. Hamilton, *Research Papers: Who's Uncited Now?*, 251 *Sci.* 25, 25 (1991) [hereinafter Hamilton, *Research*]. But see John A. Tainer, *Science, Citation, and Funding*, 251 *Sci.* 1408, 1408 (1991) (and other letters); Hamilton, *Publishing* at 1331 (for criticisms of this study's collection and interpretation of data.). For deeper discussions of citations as measures of the influence of research see G. Nigel Gilbert, *Referencing as Persuasion*, 7 *Soc. Stud. Sci.* 113 (1977); David Edge, *Quantitative Measures of Communication in Science: A Critical Review*, 17 *Hist. Sci.* 102 (1979).

46. As biologist Richard Young stated flatly, if the bottom 80% of the literature "just vanished," "I doubt the scientific enterprise would suffer." Hamilton, *Publishing*, *supra* note 45, at 1332.

47. Diana Crane, *Invisible Colleges: Diffusion of Knowledge in Scientific Communities* 122 (1975).

48. J.M. Ziman, *Public Knowledge: An Essay Concerning the Social Dimension of Science* 102 (1968).

49. See Banks McDowell, *The Audiences for Legal Scholarship*, 40 *J. Legal Educ.* 261, 270-71 (1990).

50. *Id.* at 271.

51. See Hibbitts, *supra* note 1, at text accompanying nn.34-39.

52. Traditionally, the power of a profession has been defined as lying in its monopoly over a discrete domain of work, combined with its ability to set the standards for selecting, training, licensing, and judging peers, free of outside "interference." See William J. Goode, *Encroachment, Charlatanism, and the Emerging Profession:*

Psychology, Medicine, and Sociology, 25 *Am. Soc. Rev.* 902, 902-03 (1960); *see also* Andrew Abbot, *The System of the Professions: An Essay on the Division of Expert Labor* 52-55 (1988); Eliot Freidson, *Profession of Medicine: A Study of the Sociology of Applied Knowledge* 71-72, 77-79 (1988); Paul Starr, *The Social Transformation of American Medicine* 4 (1982).

53. Abbott, *supra* note 52, at 54.

54. Freidson, *supra* note 52, at 76. Indeed, this itself is part of a wider trend, with occupations and trades of all sorts seeking to secure the status, autonomy, and authority of professions via emphasis of their putative commitment to ideals of service. For a witty discussion of this trend in the funeral services industry see Jessica Mitford, *The American Way of Death* 214-34 (1978).

55. *See* Harold L. Wilensky, *The Professionalization of Everyone?*, 70 *Am. J. Sociology* 137, 144 (1964); Freidson, *supra* note 52, at 79-80.

56. *See* Wilensky, *supra* note 55, at 145.

57. Freidson, *supra* note 52, at 79-80.

58. As it has been since law schools originally turned to law reviews in the 19th century as a way to strengthen their claims that law and its study were "scientific" enough for law schools to belong in the university. Hibbitts, *supra* note 1, at text accompanying nn.31-39.

59. McDowell, *supra* note 49, at 275.

60. *Id.* at 272.

61. Or, they could abandon the quest. If they "accept what [they] have struggled against for so long that law schools are primarily institutions for training good lawyers . . . that there may be nothing particularly academic, scholarly, or theoretical about [their] professional activity, [they] could concentrate on enhancing [their] teaching." *Id.* at 269. Of course, it is quite possible that such acceptance will come far faster if the current law review system is changed in favor of the faculty-edited, peer-reviewed form in use in most other fields. Consider that, when academics opposed to practice-oriented, law professors first "got the support of the university central administration who extended the traditional 'publish or perish' ukase to the law school," this victory was "pyrrhic," because,

[a]s the promotion and tenure decisions were channeled through the various committees of the university system, and colleagues in other disciplines learned about law school scholarship, the family skeleton was exposed. LAW PROFESSORS ARE EDITED BY LAW STUDENTS! . . . [This] is an embarrassing situation deserving the smirks of disdain it gets from colleagues in the sciences and humanities . . . [E]mbarrassment

devolved into humiliation when law review trashing became common Things got worse. Academics had to fess up to a more ignominious scandal; there is no peer review system for the articles that law professors publish in law reviews.

Arthur D. Austin, *The "Custom of Vetting" as a Substitute for Peer Review*, 32 Ariz. L. Rev. 1, 3-4 (1989).

But the problem goes deeper than this somewhat quixotic process of seeking acceptance from a community without embracing the quality-control norms which that community considers critical. For, the fact that students select articles for publication in most journals means that they, indirectly, function as gatekeepers in the allocation of institutional rewards (especially tenure) to the professoriate surely an odd situation. See Martinez, *supra* note 28, at 1141-42. One could well be forgiven for asking, with one panel discussing student-run law reviews, "Do the inmates run the asylum?" Phoebe L. Yang & Adam L. Rosman, *Introduction*, 47 Stan. L. Rev. vii, vii (Summer 1995).

62. See Lasson, *supra* note 35, at 927; Murray, *supra* note 31, at 567, 569; Nowak, *supra* note 36, at 319. In this, law professors resemble all too closely their colleagues in other disciplines. For, the mere fact that a field's literature is taken seriously, and contains many important articles, does not mean that all of those who are forced to publish (lest they perish) in it have valuable contributions to add. See Hamilton, *Publishing*, *supra* note 45, at 1332.

63. Lasson, *supra* note 35, at 949.

64. As has been stated regarding electronic publication in general, "Instead of 1,000 libraries in the world having a copy of a particular journal, we will have 100,000 libraries and individuals owning it." Andrew M. Odlyzko, *Tragic Loss or Good Riddance? The Impending Demise of Traditional Scholarly Journals*, *Electronic Publishing Confronts Academia: The Agenda for the Year 2000* (Robin P. Peek & Gregory B. Newby eds. 1995)(also available on the World Wide Web at <<http://www~mathdoc.ujf~grenoble.fr/odlyzko/amo94/node4.htm1>>)

65. Hibbitts, *supra* note 1, at 13. High journal costs and the resulting pressure to cut publication costs and library acquisitions afflict scholarly publication as a whole. Gary Taubes, *Electronic Preprints Point the Way to "Author Empowerment"*, 271 Sci. 767 (1996).

66. Interestingly, printed volumes of the Babylonian Talmud have used something of a similar system for centuries. The core of the Babylonian Talmud (occupying the center of a printed page) is comprised partly of the *Mishna*. This literature, whose compilation was completed around the end of the 2nd Century, consists of curt Hebrew summaries of earlier rabbinic debates, often elucidating the applications for Jewish practice and jurisprudence of Biblical passages. Typically, each section of *Mishna* is followed by a much longer passage of *Gemara*, the other core element in the Talmud. Written in Aramaic and compiled during the 5th and 6th Centuries, the *Gemara's* extremely

compressed language records the post-Mishnaic rabbinic debates which attempted, through rigorous logical analysis, to clarify, reconcile, and apply the issues raised in the *Mishna*. See Eliyahu Krupnick, *The Gateway to Learning: A Systematic Introduction to the Study of the Talmud* 15, 15-19 (1981); see also Zvi Bergman, *Gateway to the Talmud* 1 (Nesanel Kasnett trans., Zvi Zev Arem ed., 1986) On the printed page, the vertical columns of *Mishna* and *Gemara* (with each passage of *Mishna* followed by the specific passage of *Gemara* seeking to explain it) are surrounded by layers of commentary by later scholars. Chief among these are the 11th Century Rashi and the 11-13th Century group of scholars known as Tosfot. Outer columns include, as well, subsequent textual emendations, cross-references, and citations to relevant passages in religious legal codes, such as the 12th Century *Mishna Torah* of Maimonides, and the 16th Century *Shulchan Aruch*, which remain the bases of Jewish civil and ritual law applied to this day. See Krupnick, *supra* this note at 22-23. This remarkable arrangement lets the reader of any given page span the millennia, seeing exactly how original Biblical text was interpreted and applied as the source of contemporary Jewish law.

67. Hibbitts, *supra* note 1, at text accompanying n.234.

68. Stevan Harnad, *Implementing Peer Review on the Net: Scientific Quality Control in Scholarly Electronic Journals* (visited Aug. 28, 1996) <<http://louis.ecs.soton.ac.uk/~harnad/>>, reprinted in *Electronic Publishing Confronts Academia: The Agenda for the Year 2000* (Robin P. Peek & Gregory Newby eds. 1995) ("The raison d'être of scholarship is to communicate important contributions to knowledge." Compare this to the discussion of legal scholarship, *infra* at part II).

69. Odlyzko, *supra* note 64.

70. Jack Knott & Aaron Wildavsky, *If Dissemination is the Solution, What is the Problem?* 1 *Knowledge: Creation, Diffusion, Utilization* 537, 537 (1980).

71. The Articles Editors, *A Response*, 61 *Univ. Chi. L. Rev.* 553, 554 (1994).

72. See Eugene Gallagher, *From the Editor*, 26 *J. Health & Soc. Behav.*, 4, 5 (1985).

73. Actually, he is not the only one to make the claim. See James Lindgren, *An Author's Manifesto*, 61 *U. Chi. L. Rev.* 527, 531-33 (1994).

74. Posner, *supra* note 37, at 1136.

75. Richard A. Epstein, *Faculty-Edited Law Journals*, 70 *Chi.-Kent L. Rev.* 87, 91 (1994).

76. John T. Noonan, Jr., *Law Reviews*, 47 *Stan. L. Rev.* 1117 (special 1995).

77. *Id.*

78. Erik M. Jensen, *The Law Review Manuscript Glut: The Need for Guidelines*, 39 J. Legal Educ. 383, 383 (1989).

79. James Lindgren, *Student-Editing: Using Education to Move Beyond Struggle*. 70 Chi.-Kent L. Rev. 95, 98 (1994). Of course, rejoicing that there are more outlets *than needed* for one's output is a strong sign that its production is not geared for its putative consumers (i.e., readers). We might normally assume that excess capacity should be pared down. Indeed, this is what I thought Lindgren was driving at in another article he published the same year, in which he called for a reduction in the "extraordinary length" of most law review articles. But, no. To Lindgren, this reform would mean that "the major journals could publish *twice as many articles*." [emphasis added]. Lindgren, *supra* note 73, at 531 (1994).

80. Leibman & White, *supra* note 37, at 390-91.

81. The Articles Editors, *supra* note 71, at 555.

82. Merton, *supra* note 23, at 606.

83. Crane, *supra* note 47, at 122 (citing Ziman, *supra* note 48).

84. J. L. Dusseau, *Responsibility of the Learned Journal*, 32 Persp. Biology Med. 344, 344 (1989).

85. For an excellent description of the stages by which an initial "knowledge claim" in science reaches the stage of acceptance as a "fact" see Ludwik Fleck, *Genesis and Development of a Scientific Fact* 111-25 (Thaddeus J. Trenn & Robert K. Merton eds., Fred Bradley & Thaddeus J. Trenn trans., 1979).

86. Osburn, *supra* note 25, at 321.

87. Ziman, *supra* note 48, at 111.

88. Harriet Zuckerman & Robert Merton, *Patterns of Evaluation in Science: Institutionalization, Structure and Functions of the Referee System*, 9 Minerva 66, 99 (1971); see Ziman, *supra* note 48, at 115-16. There is also some empirical support for the role of internalization. One study of publication decisions by authors in epidemiology found that authors sometimes wrote portions of their paper with reviewers' expected concerns in mind, and also drew upon their own experience as reviewers when preparing their own work. Rier, *supra* note 41, at 180-82.

89. For a recent example, see Juan Miguel Campanario, *Commentary: On Influential Books and Journal Articles Initially Rejected Because of Negative Referees' Evaluations*. 16 Sci. Comm. 304, 304 (1995).

90. Harnad, *supra* note 68, at 8. *See also* Stephen Lock, A Difficult Balance: Editorial Peer Review in Medicine (1986). Indeed, given what was presented earlier about multiple submissions and the (over)abundance of outlets, it seems that such publication is most assured, and would be fastest, in legal scholarship. *See supra* text accompanying notes 78-79.

91. Zuckerman & Merton, *supra* note 88, at 95, 98. *See also* Lock, *supra* note 90.

92. Harnad, *supra* note 68, at ' Abstract.

93. *Id.* at ' The Anarchic Conditions of the Net.

94. Gary Taubes, *Electronic Preprints Point the Way to "Author Empowerment,"* 271 *Science* 767, 778 (1996).

95. John Ziman, 224 *Nature* 318, 320 (1969).

96. Steve Hitchcock et al., *A Survey of STM Online Journals 1990-95: The Calm Before the Storm* (visited Feb. 14, 1996) <<http://journals.ecs.soton.ac.uk/survey/survey.html>>.

97. Harnad, *supra* note 68, at *Imposing Order Through Peer Review*.

98. Hibbitts, *supra* note 1, at text accompanying nn.243-54.

99. *Id.* at text accompanying n.244.

100. Leibman & White, *supra* note 37, at 393.

101. Which is by no means to say that many of *them* read the articles, either. McDowell, *supra* note 49, at 266.

102. What is said here regarding the leading medical journals could be readily applied to almost any other field:

As scientists we want to publish in these journals because we reach a large number of people . . . ; the articles in these journals are heavily cited, thus we have a greater impact on the field; and publishing in these journals is very prestigious when we look for tenure, grants, and new positions.

Ronald E. LaPorte, et al., *The Death of Biomedical Journals*, 310 *Brit. Med. J.* 1387, 1388 (1995).

103. Hibbitts, *supra* note 1, at text accompanying n.142.

104. *Id.* at text accompanying n.122, 143-44 (citing Olavi Maru, *Measuring the Impact of Legal Periodicals*, 1976 *Am. B. Found. Res. J.* 227, 23242). *See also* Richard A. Mann,

The Use of Legal Periodicals by Courts and Journals, 26 *Jurimetrics J.* 400 (1986); Louis J. Sirico & Jeffrey B. Margulies, *The Citing of Law Reviews by the Supreme Court: An Empirical Study*, 34 *UCLA L. Rev.* 131 (1986); Fred R. Shapiro, *The Most-Cited Law Review Articles*, 73 *Cal. L. Rev.* 1540, 1547 n.38 (1985) (revealing that, of the 50 most-cited law review articles in 40 years, 21 are from *Harvard Law Review* and 12 from *Yale Law Journal* for other evidence of the disproportionate influence of the elite journals.). *But see* Austin, *supra* note 28, at 829 (discussing the limitations of citations as a measure of value).

105. Hibbitts, *supra* note 1, at n.122.

106. *Id.* at text accompanying n.238.

107. Posner, *supra* note 37, at 1132.

108. David P. Bryden, *Scholarship About Scholarship*, 63 *Univ. Colo. L. Rev.* 641, 642 (1992).

109. However, this is not a true substitute for formal peer review as a means of validation:

Whether law review vetting is probing, irrelevant garbage, or a perfunctory pat on the head by an old friend, makes no difference since the editor never sees anything except a list of the names of alleged vetters. Editors can be misled into assuming that public vetting is traditional peer review and consequently the piece has been given careful scrutiny The practice is not a reasonable imitation of conventional peer review and, more important, is vulnerable to abuses that undermine the already fragile status of legal scholarship.

Austin, *supra* note 61, at 6, 7.

110. Also, it is likely that few papers would garner the sort of attention needed to generate useful comments, thus leaving most articles without real assessment.

111. Stevan Harnad, *Scholarly Skywriting and the Prepublication Continuum of Scientific Inquiry*, 1 *Psychol. Sci.* 342, 342 (1990).

112. Robert K. Lindsay, *Electronic Journals of Proposed Research*, 1 *EJournal* 1, 1 (1991).

113. Therefore, in his proposal for use of "scholarly skywriting", a means of rapid, quality exchange of insights by experts on new topics, Harnad specifies that it is, "intended especially for that prepublication "pilot" stage of scientific inquiry in which peer communication and feedback are still critically shaping the final intellectual outcome That formative stage is where the Net's speed, scope, and interactiveness offer the possibility of a phase transition in the evolution of knowledge" Stevan

Harnad, *Post-Gutenberg Galaxy: The Fourth Revolution in the Means of Production of Knowledge*," in M. Strangelove & D. Kovacs, *Directory of Electronic Journals, Newsletters, and Academic Discussion List*. (A. Oakerson, ed., 2nd. ed. 1992).

114. Charles T. Gregg, *Plague: An Ancient Disease in the Twentieth Century* 154 (Rev. ed., 1985)

115. Indeed, delivery is but the first of many stages before information becomes useful knowledge:

Does use of information . . . mean (a) receiving it and thus getting a chance to read it; (b) receiving and actually reading it; (c) receiving, reading, and understanding it; (d) receiving, reading, understanding, and appreciating it; (e) receiving, reading, understanding, appreciating, and making it the basis of a decision; or (f) receiving, reading, understanding, and appreciating it, plus letting it help you in making a decision and taking an action (or refusing to act) in line with the decision reached with the help of the knowledge obtained?

Fritz Machlup, *Uses, Value, and Benefits of Knowledge*, 1 Knowledge, Creation, Dissemination, Utilization 62, 63 (1979).

116. Neither does it necessarily render us more careful readers. A similar point has been made regarding hypertext and multi-media in general by Norman Holland in an admirably accessible article on postmodernism in the age of hypermedia: "Texts, finally, are inert objects. They are inanimate, powerless, and passive. They don't *do* things. Readers act, texts don't." Norman N. Holland, *Eliza Meets the Postmodern* 4 E Journal (visited Aug. 28, 1996) <<http://rachel.albany.edu/~ejournal/v4n1/article.html>>.

117. After all, even under the current, much-criticized system of student editing, one law professor claims that "nearly every one of my articles has been stronger coming out of the editorial process than it was going in." Wendy J. Gordon, *Counteer-Manifesto: Student-Edited Reviews and the Intellectual Properties of Scholarship*, 61 Univ. Chi. L. Rev. 541, 544-45 (1994).

118. Jensen, *supra* note 78, at 383; Leibman & White, *supra* note 38, at 392 n.26, 418.

119. For example, Section II-B-5 of the current *Code of Ethics of the American Sociological Association* reads, in part:

Submission of a manuscript to a professional journal clearly grants that journal first claim to publish. Except where journal policies explicitly allow multiple submissions, a paper submitted to one English language journal may not be submitted to another journal published in English until after one official decision has been received for the first journal.

For an instance of the practical applications of this Code, see Eugene Gallagher, *Editorial: Heavy Manuscript Traffic on the Highway of Journals*, 29 J. Health & Social Behav. vi, vi (1988).

120. Lindgren, *supra* note 73, at 535.

121. See Epstein, *supra* note 75.

122. James Lindgren, *Reforming the American Law Review*, 47 Stan. L. Rev. 1123, 1125-26 (1995).

123. *Id.* at 1128.

124. Priest, *supra* note 32, at 728-30.

125. Hibbitts, *supra* note 1, at text accompanying nn.239-43.

126. Rob Kling & Lisa Covi, *Electronic Journals and Legitimate Media in the Systems of Scholarly Communication*, 11 Info. Soc. 261, 267 (1995).

127. Harnad, *supra* note 111, at 344.