

Fall 1991

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Peter W. Martin  
*Cornell Law School*, [peter.martin@cornell.edu](mailto:peter.martin@cornell.edu)

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## Recommended Citation

Martin, Peter W., "How New Information Technologies Will Change the Way Law Professors Do and Distribute Scholarship" (1991).  
*Cornell Law Faculty Publications*. Paper 1190.  
<http://scholarship.law.cornell.edu/facpub/1190>

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# How New Information Technologies Will Change the Way Law Professors Do and Distribute Scholarship\*

Peter W. Martin\*\*

*Using a typology of legal scholars, Professor Martin explores the impact of new information technology on their work. His analysis suggests that increased use of electronic media in legal scholarship is likely to have a profound effect on the institutional structures of law schools, and he raises doubts about the continuing need for traditional academic law libraries in the future.*

## I. Introduction

The words "legal scholarship" have a humorous ring to those who are not engaged in it. I am referring not to those so uncouth as to claim the phrase is an oxymoron, but to those who hear in it the implication that what all other disciplines do in print is illegal. If "legal scholarship" is a concept with uncertain overtones, "automation" is more troublesome still. Indeed, automation carries such troubling connotations that its use in discussions like this is in decline, with such phrases as "information technology," "electronic media," or "computer-based" replacing it.

Begging all sorts of difficult questions, this article focuses on law faculties and the work that law professors term "scholarship" when they are asked to list such things, to submit to a tenure review, or to search their consciences for an answer to the academic's existential question, "What do you do besides teach?" The line of speculative inquiry I shall try to pursue concerns the interplay between new information technologies (that is, those that do not rely on print for information storage, access, or transmission) and such "scholarly" activity.

## II. Differing Impacts on Different Law Professor Types

Once upon a time, all law professors held the same view of their work and their place in the institutional firmament. That mythical age passed

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\* © Peter W. Martin, 1991. This is an edited version of a paper presented at the Annual Meeting of the Association of American Law Schools, Washington, D.C., January 3, 1991.

\*\* Edward Cornell Professor of Law, Cornell Law School, Ithaca, New York.

some few years ago, however, and those who comprise today's law faculties hold several quite different views about who they are and what they do. Often one or more of these personae live within a single faculty member, but I shall assume here that we are dealing with four distinct types. That assumption simplifies analysis, I believe, without weakening it.

My first thesis is that imminent information technologies are likely to have quite different effects on the scholarship environments of these four types. The impact, while varying, will be profound for all four and, indeed, is likely to shift the balance among them in unforeseen ways.

A second, but related, thesis is that any view of scholarship focusing solely on individual faculty members (as units of scholarship production or consumption) will miss much of the change likely to occur. That leads me to some speculations about other people and institutions after I have outlined my four professor stereotypes. The four are named Professor Lawyer, Professor Humanist, Professor Social Scientist, and Professor Internationalist.

These caricatures are simply a means to the end of understanding the impact of electronic media. The references are not pejorative. As a former dean, I have deep respect for all these types. Less obviously, I claim to have enough empathy and exposure to colleagues of all four types to construct plausible speculations about the future by projecting onto them patterns of work that I and some of my colleagues have already adopted. The vulnerability of these ideas lies not in what they assume about technology, but in what they assume about people. And the core assumption is that the tools which I find enormously empowering and which a few colleagues are now using will soon sweep the academic workplace with the same speed and force as word processing.

#### *A. Professor Lawyer*

Let us begin with Professor Lawyer, whose scholarship rests in research in and analysis of the same law texts that a practicing lawyer consults to resolve a client's problem or to shape a client's transaction or enterprise. Professor Lawyer reads good work in her field of interest gathered from the law journals, including the writing of those doing more interdisciplinary work. Professor Lawyer also works with looseleaf services and monographs. In short, Professor Lawyer draws on the many resources of a good lawyer's library, but focuses her scholarship in the end on authoritative law texts. The audience toward which Professor Lawyer's scholarship is directed includes not only similarly minded academics but, significantly, lawyers, judges, and, to a lesser degree, agencies and legislatures. Professor Lawyer's better journal articles are cited in appellate decisions and briefs. Professor Lawyer's monographs or treatises are on the shelves of law offices.

The new information technology will affect both the research and distribution sides of Professor Lawyer's scholarly work. On the sources side, the digital law libraries of WESTLAW and LEXIS can already provide most of the materials Professor Lawyer's work requires—cases and statutes as well as a growing inventory of secondary literature—directly to the point where it is needed. Professor Lawyer's working library is available in its entirety in her office, classroom, or home. In all these places, documents can be read on the screen, appropriated in whole or part, printed at will, and downloaded.

For two reasons, these electronic research tools will have swifter and deeper penetration of Professor's Lawyer's work life than the work life of her counterparts in practice. A first reason is price discrimination. Professor Lawyer has been given *carte blanche* access to LEXIS and WESTLAW, while a practicing lawyer is or ought to be acutely conscious of the unit cost of electronic research. A second and equally important reason is lack of minions. I will assert until I am shown contrary evidence that more professors than lawyers have direct personal contact with a computer. They have learned to write and revise with one because of limited secretarial support, just as they are now making far more direct use of LEXIS and WESTLAW because they lack junior associates to whom they can assign research. Since Professor Lawyer writes on a computer, ease of manipulation and appropriation becomes a reason for use of online databases alongside ease of search and retrieval. Writing about authoritative texts, Professor Lawyer can have them in a window on the same screen that shows an emerging manuscript and can copy portions directly into her own work.

On the distribution side, Professor Lawyer will soon realize that to reach the widest possible audience of lawyers and judges with an article or its equivalent, the writing itself must be distributed electronically. Publication in WESTLAW and LEXIS, via the law review files, is already a more effective distribution path to members of the legal profession than print alone. Note that I am referring not to such new forms of scholarship as may be suggested by words or phrases like hypertext, electronic treatise, or expert system, but simply to new means of distributing traditional writing about legal issues.

### ***B. Professor Humanist***

Fewer of Professor Humanist's information needs are met by WESTLAW, LEXIS, and their relatives. Professor Humanist reads law texts, although perhaps not so extensively as Professor Lawyer, and many other books as well in the making of scholarship, for example, books of history, philosophy, or literature. These materials are likely to be

distributed primarily in print for some time to come. Yet, while the commercially focused databases may be less useful in some respects to Professor Humanist, as a law professor he has an immense advantage over colleagues working with literary or other texts. That is because many of the documents important to his work are in electronic form and are in the public domain. Those working with literary texts must deal with the massive challenge of digitizing the material and, unless it is old, dealing with copyright issues. The law school's Professor Humanist can pursue questions of imagery or word usage using databases that were assembled to meet the pragmatic needs of practicing lawyers. On the other hand, the existence of the commercial databases may have an unfortunate preclusive effect. They may make it more difficult for Professor Humanist to conceive of and secure funding for noncommercial databases in law (such as those with solely historical interest) than for his colleagues in other disciplines.

In the short term, it is on the distribution side that electronic media are likely to have the greatest impact on Professor Humanist's scholarly environment. Professor Humanist writes less for those in practice or on the bench than for other academics both in law and related disciplines. The primary function of scholarship for Professor Humanist is exchange with other serious scholars, not communication with the legal profession.

In other fields where this is the case, electronic media promise a revolutionary change in the patterns of scholarly communication. The established patterns, which have been in place for most of this century, include scholarly journals edited at universities and distributed to university libraries and members of the discipline, with universities subsidizing both sides of the transaction. Cost pressures combined with the ease of electronic communication seem certain to reform the system over the next decade. As a distribution system, print is both inefficient and slow. In some disciplines, though perhaps not in law, scholarly writing is history by the time it is printed. Distributed among colleagues in preprints and now on BITNET and the INTERNET, scholarly writing in some other disciplines is known and commented on by the author's most knowledgeable and important colleagues long before it is archived to print. This is especially true of scientific disciplines, and it is the sciences that offer a model of what might be. The Medical School at Johns Hopkins is now home to a totally electronic journal or database in the field of human genetics, complete with editors, peer review, and constant updates.<sup>1</sup> In

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1. The Genome Data Base, developed by the Johns Hopkins Laboratory for Applied Research in Academic Information, contains raw genetic data, bibliographic information, and communications from editors around the world who have authority to update the database. Unvalidated data is submitted to an online peer review by the editors. The database is accessed through Telenet or Internet.

fields where communication by words and two-dimensional images is significantly deficient, electronic media offer even greater advantages. On this point, the Brookhaven database that gives users access to computer-based models is far more suggestive than LEXIS.<sup>2</sup> Professor Humanist, once freed of the print journal, may discover powerful new ways of representing legal phenomena.

Electronic messageways both define and are shaped by external notions of community. When the legal academic first discovers electronic communication, he confronts a threshold question of identity, namely whether to link to the profession (via ABA/NET) or to other academics (via BITNET or the INTERNET). With no hesitation, Professor Humanist will choose the latter. It and more sophisticated environments for electronic communication will take the place that the most recent journals in the faculty lounge once held as symbols for and means of academic exchange.

### *C. Professor Social Scientist*

Professor Social Scientist uses the INTERNET too, as well as SPSS<sup>3</sup> and large data sets. Professor Social Scientist and perhaps also Professor Lawyer build and then work from a personal information base. That information base will be increasingly computer-based, whether the legal phenomena that Professor Social Scientist studies are child custody awards, product liability judgments, the political affiliations of judges, disciplinary proceedings against lawyers, or malpractice insurance rates. Empirical work on law has been conspicuously absent from law schools, in large part because of the threshold costs of data acquisition and the need for special skills of computation and data analysis. Having no graduate students, legal academics have lacked the captive skilled person power available to others for such endeavors. The computer is creating new opportunities for work of this type by reducing the threshold costs; it certainly has at my school. Acquiring or inputting significant collections of law data is today quite manageable. The tools of data analysis, from spreadsheet on up, are distributing a capacity to do statistical analysis far beyond a small band of Ph.D.'s with access to a mainframe and the skills to use it.

### *D. Professor Internationalist*

Last and briefest in this law professor lineup is Professor Internationalist. In terms of our future she is, perhaps, the most important. Professor

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2. The Brookhaven National Laboratory's National Nuclear Data Center, located in Upton, New York, manages several national and international databases.

3. The Statistical Packages for the Social Sciences (SPSS) are designed to access, manage, analyze, and present numerical data. They are developed and marketed by SPSS, Inc., in Chicago, Illinois.

Internationalist has never been well served by print. Consequently, she is, or should be, ecstatic at the prospect of an up-to-date online international law library, with transmission by telefax or electronic mail of print materials not available in the immediate law school collection. That is not a full-fledged present reality, but enough of the pieces exist to give promise of far better international distribution of domestic legal materials and documents produced by international organs than law scholars have ever before known.

### **III. Institutional Effects**

#### ***A. Erosion of Certain Shared Resources***

What will be the cumulative effects of these disparate impacts on the membership of a typical law faculty? One possible consequence is erosion of important institutions that have rested on a presumed community of interest between the profession and academic lawyers, between law students and law teachers, and among law professors as a group. The practices of collecting and maintaining a law school print collection (a private lawyer's collection that had taken a quantum leap or two) and channelling most law scholars' writing through law journals published for a mixed academic and professional readership both presume a strong community of interest. The presumption of shared interests even goes so far as to include those journals as part of the law school educational process, with students editing them.

The changes sketched above are likely to accentuate the differences among my four professor types. And such organs as law libraries and law journals that purport to serve a community of interest will, as a consequence, face a stressful future. How much space in a typical law school library and how much of the library budget are taken up by journal articles, reported appellate decisions, and statutes? If most productive law faculty members soon cease to be stakeholders in that collection or users of library staff services cease accessing it, the institutional implications seem profound.

Other forms of publication, including electronic forms, have taken on the tasks that law reviews originally set for themselves: bringing the first report and comment on important developments to an interested profession. It seems inevitable that many of the "omni-purpose" law journals now published will be replaced by differentiated electronic distribution paths. More than ever, law reviews now exist to be written, not to be read. If the replacement institutions can give students the same high status research and editorial experience, their interests should not warrant keeping these archaic forms. And surely academics can find new, more

cost-effective ways to quantify their production and still leave an archive for posterity.

The changes I foresee are more than a simple electronic/print tradeoff—new forms for old activities and budget tugs-of-war. It would be a serious mistake to neglect the resource shifts likely to accompany the changes of this sort and alterations in institutional ecology.

### ***B. Human Resources***

The law scholar of yesteryear worked alone with books, the materials for taking and keeping notes, and a few invisible subordinates. These helpers included one or more student assistants to find cases and check citations, a fraction of a secretary to type and retype manuscripts, and a cadre of invisible people to plant and till the library.

The law scholar of tomorrow will require fewer of these forms of help. (Long-term secretaries at my school cherish being assigned to the few still left on the faculty who require a typist.) But law scholars will require more of new kinds of assistance; a fast machine, a modem, and software with free online access furnished by the vendors will not be enough. Particularly during the period of transition, but even beyond, the law scholar will require professional help in using these new information tools. At least at the outset that help will have to involve far more collaborative work than has characterized the law scholar's work in the past.

Where will those who bring equipment, software, and data expertise to the scholar's team fit into the modern law school? This question involves titles, recognition, career lines—all those thorny questions that librarians have climbed over or around as they have filled in law schools over the past half century. Will these new scholarship collaborators be librarians or at least departmentally based in the library? Perhaps, but there are at least two other models that are plausible alternatives.

One distinct possibility is that new departments of technological support will arise. Initially established as departments of chips, floppies, and screwdrivers, they will, before long, become a source of advice on statistical analysis packages, the organization of large full-text databases, and the feasibility of acquiring certain materials in digital form.

Another model draws upon analogies in the hard sciences. Many of my science colleagues at Cornell head small enterprises. They hire the expertise they need for the projects they carry out within the limits of a budget. Years ago at the Cornell Law School, when the only secretary worked for the dean, the dean furnished productive faculty members with allowances to procure typing services. Will that pattern return? Last year, I persuaded my dean to let me hire a law graduate to work on my scholarly project for half a year, trading in my allotted secretarial support. If I were given the



option of trading in some of my share (whatever that is) of the law library budget for additional helpers who would work at computers with data that I have collected or that they could access via LEXIS or WESTLAW, I would not think twice about exercising that option, so long as all I cared about was my own research and teaching. Although few of my colleagues might make the same choice today, what about ten years from now?

The resources at stake are quite large. Since *Law Library Journal* is not online, I am not sure I have the most up-to-date figures. Jane Hammond's 1988 article in that journal<sup>4</sup> reports 1986 data on law library expenditures that I have crudely extrapolated forward. If we assume that the average law school still spends close to but not quite 20% of its budget on the law library,<sup>5</sup> with a typical law school budget of, say, \$8,000,000 and a full-time faculty of 30, the annual library expenditure per professor amounts to \$50,000.

### C. *Institutional Ecology*

A second area of broad effect is law school ecology or, perhaps, sociology. What I have in mind is the use and social significance of space. Just as the information resource denominated "library" presumes a community of interest, it also creates communal space. Indeed, there is no space more sacred in my school than the reading room of the law library. Often, and not just when raising money from nostalgic alumni, we speak of it as the heart of the school, a laboratory for students and faculty. The location of faculty offices in close proximity to the library collection was a critical design element in our recent building program. In truth, the library *has* been the law school's laboratory, shared by faculty and students, offering resources that students use side-by-side and see their faculty using. Something important will be lost if this space loses that meaning and no equivalent expressions of community arise. Of course, there can and will be substitutes; we simply must be creative enough to adapt them to our needs.

Recently, I have had a far closer working relationship with student assistants than I ever had before. We have been working in opposite ends of the building, at computers, on electronically based law data. But we have been linked by e-mail. Questions and responses flow much more readily between us than when my assistants worked at carrels in the library stacks not far from my office door.

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4. Hammond, *Library Costs as a Percentage of Law School Budgets*, 80 *LAW LIBR. J.* 439 (1988).

5. *Id.* at 444.

#### IV. Conclusion

New is not necessarily better. Inevitable changes in methods of information distribution and scholarly communication are likely to threaten not only the ways of working (which we find so comforting and take so much for granted that we identify them with work itself), but also important values that we see, quite rightly, as embodied in institutional structures that rest precariously on obsolete technology. Neither is a sound reason for resisting change; both are reasons for seeking to devise effective new structures.

One reason change in the law scholar's work environment is inevitable is that the law scholar asserts so little control over it. Placing law schools and law scholars in a broader perspective within both the law and higher education highlights that essential truth.

The impact of new information technology on the work environment of the law school academic will be trivial compared to the impact on such larger, more important populations as lawyers and judges, most of whom are quite remote from large print collections and from one another—not to mention the benefits for citizens seeking better access to legal information. These effects and the forces they generate are likely to have far greater influence on the shape of the new information systems available to law scholars than the interests and concerns of law scholars themselves.

Within the law scholar's other major frame of reference, the university, her situation also seems relatively insignificant and uninteresting. I serve on a university committee exploring the impact of new information technology on teaching and research. In its meetings, I have heard speculations and concerns similar to those sketched here expressed from one end to the other of the rainbow of disciplines that comprise a large research university. With such pervasive forces at work, the situation of the law scholar, including such noteworthy features as the full-text electronic libraries of LEXIS and WESTLAW from which others might learn, tend to have a very low profile. Law schools are seen by many as peripheral to their universities.

In this period of major transition, law scholars and law schools have an exciting opportunity to lead. But leadership roles within the profession, on the one hand, or the university, on the other, will not come by default. They will have to be earned.