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Reducing the Cost and Improving the Quality of Course Materials Through Technology

I. Introduction

Around the globe electronic media are transforming how the broad range of activities called "law" are carried out and how advocates, counselors, and judges perform their respective functions. Undoubtedly, the pace and contours of change vary from place to place, but nearly everywhere the impact of digital information and communication on law-related functions seems both breath-takingly rapid and inexorable. In the U.S., the sights of a judge bringing a notebook computer to the bench, a lawyer searching documents relevant to a case or the transcript of its proceedings in digital form, or a client consulting with a lawyer via computer network have moved from startling to commonplace in a decade or less.

Electronic media have also begun to transform American education at all levels starting even before formal instruction, in the home. Today at the point of entry into U.S. legal education most students identify serious writing with a computer and research, at least in part, with database searching. They also bring familiarity with hypertext environments (significantly the World Wide Web) and with computer-based communication.

While law schools and their faculties have neither caused nor pressed these changes, they must manage to understand and embrace them at an unaccustomed pace or run a serious risk of losing effectiveness and influence. The moment holds exciting opportunities for universities and other institutions performing central roles in legal education. Unfortunately, these are opportunities some may have difficulty responding to.

This paper undertakes a brief review of one of the more promising opportunities opened by digital technology to legal educators, not only in the U.S. but in less technology rich environments as well. Its focus is on the use of digital technology to distribute and create course texts. The paper also identifies impediments to change represented by limited notions of institutional role and other sources of inertia.

One can, perhaps, get a measure of the pace and scale of potential change for legal education by looking at a neighboring sector with which many legal educators closely identify -- namely, law publishing. A short twenty-five years ago, LEXIS introduced a computer-based U.S. tax library, comprised of statutes, decisions, and agency material. It was a novelty, greeted at first with huge skepticism. The established law book publishers were dismissive. In the decades that followed the birth of LEXIS, computer-based law systems moved from being powerful, but expensive, print supplements used by a few to print replacements relied on by many. Trailing after the initial shock wave have come successive others with even greater cumulative impact (inexpensive, high-density disk distribution and most recently the Internet). While for a brief time (perhaps as long as a decade) it may have seemed to law book publishers and their customers that digital technology allowed both to function largely as they were accustomed to, aided by new tools promising greater functionality and reduced cost ("faster, better, cheaper"), that was the standard delusion of the ancien regime.

Today, the multi-billion dollar U.S. legal information industry is totally realigned. Century-old book publishers are gone, swallowed by multi-national enterprises that have assembled full print and electronic distribution capability, but equally the victims of numerous other independent actors, including both public agencies suddenly able to reach the public directly without use of commercial intermediaries and new commercial distributors with names like LOIS and Hyperlaw. The informal but pervasive "partnership" arrangements between courts (and other public organs) and commercial law publishers involving the exchange of "official" or other special status in the distribution of their output for below market prices on legal information products in return have suddenly begun to unravel. These interconnected

changes have fueled battles over the reach of copyright protection to commercial compilations of judicial opinions and statutes and a struggle for vendor and media neutral citation. The sums and energy devoted to these "technical issues" by those favored under past distribution patterns and their new competitors leave little doubt that the stakes are very high.

Legal education appears to be positioned at an earlier point on what may well turn out to be a very similar curve.

II. Some Background -- The Limits and Generality of My Experience in This Field

For better than a decade I have, like numbers of you, been pursuing questions concerning the impact of digital technology on law and legal education. Most of this investigation has taken very tangible form. By "tangible form" I mean simply that the research has been experimental rather than strictly theoretical, that it has entailed participation and action rather than detached observation of what others were about. The first large project, begun in 1988, involved exploring how to design a fully electronic law treatise, one that would take full advantage of digital technology. The vision was of a specialist's map of an area, surrounded by nearly all of the relevant source material and connected to it on a robust hypertext and full-text search platform. This project entailed building an electronic Social Security treatise and database with U.S. lawyers, judges, and public officials very much in mind and addressing the myriad issues of format and function posed by the new medium. Social Security Plus, published on CD-ROM by Clark, Boardman, Callaghan (successor to an earlier LEXIS version) was the direct result and the design and process elements of that first work now appearing in other CD-ROM publications, its lineal descendants.

In 1992, convinced that new roles were opened to law schools by digital media, my colleague Thomas R. Bruce and I established the Legal Information Institute (LII) at Cornell. Our experience over the past six years suggests strongly (to us, at least) that we were not mistaken and that if anything we underestimated the pace and extent of potential change. To begin, the ground shift that has transformed law publishing allowed our young institute to become a serious electronic publisher, strengthened by the collection of human and information resources represented by Cornell's law faculty, library collection, and student body. Today more people visit Cornell Law School < http://www.law.cornell.edu > electronically in a single day's time than have enrolled in its degree programs over 110 years of history. The LII's e-mail delivered law bulletins, including one carrying student-prepared and faculty-edited case commentaries, reach many times the number of subscribers to the school's print law journals. Basic course materials published by the LII on CD-ROM and available for purchase via the Internet are widely used by law students, faculty, and others -- including teachers and students in high school and college settings. Because the Internet not only allows but invites two-way communication we have heard from and learned about the interests and needs of important new constituencies for the school. The LII Collection of Historic Decisions of the U.S. Supreme Court now used in many high schools is a direct result of such exchange. We have embarked upon another CD-ROM and Internet publishing project, the American Legal Ethics Library, that employs a pattern of distributed authorship involving practicing lawyers as well as the school's own faculty that would have been impossible but for the Internet.

Most recently, in 1996-97, the LII undertook to explore how digital technology might be used by law schools in the U.S. to reach students and involve faculty remote from their campuses. This followed our year long study of how a full class of law students at Chicago Kent Law School worked with digital course materials. The LII's distance learning experiment sought to shape standard law school course educational aims and practices to the Internet's very different environment. The institute offered a single course, for credit, to students at four scattered sites. The participating institutions included Chicago-Kent, the University of Colorado, and the University of Kansas, in addition to Cornell. Some key elements of this experiment were:

- digital course materials (distributed via the Internet)
- e-mail and Web-based written exchange as a continuous means of teacher-student, student-student, and student-teacher exchange
- a once a week Internet-based video conference for "face to face" class discussions (scheduled across four school class schedules and academic calendar and three time zones)

With modifications reflecting growing experience with the pedagogical demands of such non-traditional methods, the course has been repeated twice since. We have already learned enough from this venture to be confident that "distance

learning" is not science fiction and that it need not be limited to special cases. In implementing this course, as with many other institute activities, we have discovered that the cultural and institutional issues and challenges are far more perplexing than the technical ones.

When the ground quakes, nature delivers a 100-year storm, or many lives are changed abruptly in some other unexpected way there is a powerful human tendency to focus on the immediate environment, to interpret the large-scale event in very personal terms. This might be thought of as the "Where were you when ..." phenomenon. Dramatic shifts in technology produce a similar effect. Lacking a reasonable base of experience, concepts or language to deal with the new in generic terms, people often relate to it in intensely personal ways. Consider the fierce loyalties to particular software, computers, and computer environments that prevail among serious word people as they first adopt word-processing. In time most mature to an understanding of the phenomenon that is less dependent on what happens when one strikes the F-7 key or clicks on a particular picture. Most comprehension and discourse about the digital revolution or its most recent eruption, the Internet, exhibits this parochial quality. Despite the repetitious use of words like "world" and "global" or the less grandiose "national" to describe these exciting phenomena most of the talk is, at bottom, about "me" and "us". So it was for me. When the digital revolution struck I was teaching at a well-endowed U.S. law school and so for a long spell I visualized its promise and challenge solely in relation to those surroundings. That meant I presumed a rich information environment with strong libraries, well established on-line services offering fiercely competitive options, computer literate if not computer owning students, networked classrooms and so on. With so narrow a view a radical change in vantage point can be useful, though disorienting, as well.

Early in 1996 I had an opportunity see the digital revolution from a very different though no less exciting a perspective, one which informs the following reflections. That pivotal experience came about in the following way.

In the spring of 1995 I was invited to meet with a group of African law school deans then touring America. In the exchange I heard them describe legal education and law settings very different from those my prior work with digital technology had taken for granted. They spoke of libraries that had received few new books or journals for a decade or more, of faculties unable to publish and limited in other ways from participating in international professional exchange.

The deans were visiting U.S. law schools, under the auspices of the American Bar Association and with U.S. government support, in part, to seek donations of books. Hesitantly but in considerable detail, I suggested that mailing a collection of CD-ROMs along with funds for a computer might be more useful to their institutions than shipping the equivalent numbers of cast off books. I pointed to the Internet as a means of connecting their faculties and students to colleagues and information resources elsewhere on their own continent and around the globe - pointing specifically to the Constitutional Repository at Wits and to a new site that had arisen in Zambia maintained by an entity called Zamnet. With startling speed, the presentation led to an opportunity to test those ideas and some others.

During the winter of 1996 upon the invitation of Dean Simbyakula I worked in Zambia, at the university law school, with Zamnet, law faculty, the judiciary, and the national law association to establish a law database and an institute responsible for its further development. Internet access to the Zambia Legal Information Institute was launched.

As you would appreciate more readily than I, a brief stay at a the University of Zambia Law School hardly qualifies me as informed about life, law, political and social environment in Zambia, let alone the present and potential role of computer technology in Commonwealth law schools more generally. What it did do is loosen my focus on the educational environment with which I was most familiar and force me to reflect in more general terms. And that has helped me (I believe) to understand my own environment more completely.

III. The Central Role of Assigned Readings in Legal Education

Whatever the level of technology support, student preparation, or other factors, university-based legal education as it is commonly practiced is assembled from a core set of activities and inputs. How these are assembled (the curriculum) varies considerably from one national setting to another. Individual inputs -- including notably the prior background, existing skills, relative affluence, and educational expectations of incoming students -- can also vary enormously from school to school, country to country. But amidst this variance lie a very consistent set of constituent elements. They

relate to the nature of the work we expect of our students, how we assist their learning, and the means we use to measure their performance and progression.

Important among these constituent elements is the practice of assigning readings. Whether the regular meetings between faculty members and students are conducted in large gatherings or small, through lecture or more interactive techniques, our pedagogy presses against texts the students are expected to read -- all of them, the same texts, more or less at the same time. And so it has been for as long as print has been the principal means of recording and communicating law and books have been mass-produced.

The books -- texts, casebooks, treatises -- from which, upon which, against which we teach are so central to our work that we can and often do become quite unconscious of how much they (and those who publish them) affect our ability to educate.

IV. Some (Frequently Overlooked) Deficiencies of Commercially Prepared and Distributed Course Books

If this focus on books has reminded you of some of the ways in which you have from time to time felt frustrated and limited in your teaching by your dependence on the commercially published course materials available to you and your students that was my intent. We are at one level always and on occasion acutely aware of the deficiencies of our course books, but they are so pervasive we assume them as givens, as inevitable. And making a virtue of adversity we prize and strengthen our skills of compensating for their deficiencies. Furthermore, we ourselves as students and through our careers as teachers have known no other way.

The time is fact approaching, however, when if we (law teachers and schools) seize the opportunity and initiative we can do much better than we have previously known. The revolution in information technology now in progress both illuminates the deficiencies of the commercial law texts with which we work and offers ways of overcoming them.

With the benefit of what in the U.S. is often called "20-20 hindsight" let me catalog some of the more salient disadvantages of the conventional text book system.

A. Books Are Costly to Manufacture, Store, Ship and Store

Compared to digital technology books are a costly means of storing and distributing information. They are even, strange to say, a costly way to distribute print. Our institute creates and distributes a CD-ROM that holds 610 historic decisions of the Supreme Court of the United States. The contents consume but a fraction of the disk's capacity so that as an example it understates the point. Printed out this collection of materials would fill at least 20 volumes of 1000 pages each. Leaving aside all costs of preparing the material and licensing the software, the disk can be reproduced by a commercial duplication facility in the U.S. in quantities of a few hundred for roughly US $ 5 per disk, complete with label and wrapper. Printing out the same material in twenty volumes in a run of a few hundred would easily cost several hundred dollars per set. There are, for sure, economies of scale so that the book production costs (like the disk production costs) would drop with increases in volume. However, even if what is wanted is a number of printed sets at scattered sites, shipping the CD-ROM and printing out a small number at each of the sites of use more than recovers the greater printing costs lost through erosion of those economies of scale. That is particularly true if the printing can be limited to the precise number needed at each site. Print on demand from digital source material bypasses the heavy costs of storage, shipping, and strategies for dealing with miscalculation of both overall demand and the demand at some particular site. These added costs are compounded in nations that import their books, for they must be paid in foreign exchange. Because of all the costs associated with the end distribution side of book sales, the largest and most rapidly growing bookstore in the U.S. ships books only on demand. No physical bookstore in Ithaca, NY or even New York City can afford to offer the range of titles of www.amazon.com. And its prices are competitive even though the buyer bears the shipping cost explicitly, because Amazon does not have costly inventory scattered at numerous points of sale across the map.

If the cost-benefit comparison between book and CD-ROM distribution is dramatic, the Internet offers even greater competitive advantage.

B. Books Are Static and Therefore Soon Grow Stale

Law is a field in which currency is important, more important with some specialties than others and more important at some times than others. A U.S. copyright text that fails to address the changes in the law enacted in mid-October is now seriously out of date. In most fields texts that are five or more years since last revision are problematic. Yet for a host of reasons, many, many law courses are taught from books at least that old.

C. Being Costly, Books Tend to Be Configured by Their Publishers to Achieve Economies of Scale Through Market Aggregation

Jurisdictions that are relatively small, courts and agencies with important but narrow responsibilities are not attractive to and therefore are not well served by print publishers. It is not accident but a history of neglect that has led the Supreme Court of the State of North Dakota to be the first in the U.S. to open its own Web site for official release of the full and final version of decisions on the very day they are handed down. With only 640 thousand or so citizens and very few lawyers North Dakota has never offered a very attractive market to commercial law publishers. The only one that prints North Dakota decisions bundles them with those of numerous other states. The citizens and lawyers of North Dakota cannot, in print, buy their law unbundled.

The same market forces shape the texts from which we teach. Despite the fact that in the U.S. many areas of the law vary significantly from state to state there are almost no published teaching materials focusing on particular states. Instead, I teach property law from a book that pretends that the important features of property law are more or less the same across the fifty states. Some of you may teach in jurisdictions where there are no commercially available texts focusing on the distinct character of your nation's law of sales, domestic relations, business entity formation or environmental protection.

D. Books Are Inflexible

1. Altering a Printed Text's Sequencing of Topics to Fit the Teacher's Educational Strategy Is Difficult

Perhaps I am unusually restless and contrary minded, but I rarely cover the topics in my courses in the same order in successive years and I believe I have never covered them in exactly the same order as they are presented by the assigned text. That is true even of the texts I have myself prepared.

The path of least resistance for both teacher and students is to proceed through a packaged set of course readings from start to finish. Through a syllabus mapping hops around in the book against the teacher's progression of topics and with daily reminders of the next reading assignment it is possible to shape a published book to the teacher's pedagogy, but at a not inconsiderable cost of student resistance and teacher burden.

2. Adding Readings to or Subtracting Them From a Commercial Text Creates Sharp Discontinuities

For countless reasons law teachers are prompted to augment commercially published course texts. For many of my colleagues the ratio of supplemental readings to published text is close to fifty-fifty and for even more the ratio of pages assigned to the full number in the book is well below eighty percent. For both teacher and students juggling the resulting portfolio and moving back and forth between book and supplementary readings is cumbersome.

E. The Existence of "Home Grown" Teaching Materials, Locally Prepared Via Mimeograph or More Recently Photocopy Technology, Simply Underscores the Dimensions of These Drawbacks

Throughout the thirty years I have been teaching law I have known countless colleagues who, out of frustration with these problems, have created their own personal compilations of course readings. As digital technology has made this an easier project, the number has grown. I don't know of a U.S. law faculty that does not have at least a handful of faculty members engaged in this form of self-publication.

V. Drawing on and Contributing to the Rapidly Evolving Virtual Law Library to Achieve Cheaper, More Appropriate and Timely Readings

A. Ways in Which "Home Assembled and Redistributed" Course Materials Offer Solutions to These Problems

The Web and other forms of digital distribution make possible but hardly assure a very different approach to course material preparation. The system I envision would permit the instructor to review full sets of course materials prepared by others, modules on particular subtopics, and the ever expanding background collection of legal material on the World Wide Web. Using menus, an alterable table of contents, the full resources of the Web as well as any personal files, the instructor could shape a set of readings (sequence, emphasis, items of content, level of excerpting) to fit the goals and approach of his or her course. The resulting composite would, in the end, be delivered as an editable word-processing file, formatted for creation of a master copy. Once polished that master copy would be printed and duplicated locally. Such details, as whether the students would buy these copies and retain them or they would instead be owned by and returned to the school for subsequent reuse could vary according to local conditions.

B. Two Illustrations -- The LII's CD-ROM Collection of Historic Supreme Court Decisions and Tromsø's Trade Law Collection

For three years our Institute has prepared and sold a CD-ROM collection of U.S. Supreme Court decisions. From the start we set it up to facilitate the creation of locally printed course readings -- knowing that its most common use in the high school and college setting would be to support a unit on the Court's role during a particular period of history (e.g., the 1930's) or on its evolving position on important issues over time (e.g., the rights of African-Americans or women) rather than a full course on constitutional law. Teachers can select decisions for potential inclusion in course readings using several tools we have built in. They can use another set of features to excerpt those decisions. Finally, they can either prepare a master print copy using the CD's software directly or they can save their selections to a text file for further word processing manipulation such as the addition of study questions and notes. We know from first hand reports that the disc is being used in this way. While the collection has many elements that make it an excellent library reference source, it is also designed and licensed as a source of print on demand.

For those who teach international trade law the International Trade Law (ITL) site established by Ralph Amisah at Tromsø, Norway in 1993 offers a comprehensive source for primary source readings. Amisah's original statement of purpose for this project: "To investigate the potential of W3 as an information resource, with regard to legal research and education … taking a practical example, - … international trade law as a limited and vitally important area … that is of global interest" has been more than realized. While the site offers no special tools for course reading assembly, a trade law teacher with a standard web browser and word processing software can put together a foundation set of materials from that site (and others) with relative ease. Whether reproduced in enough copies for an entire class or placed in limited number in the library, readings drawn from the ITL can support instruction on this vital area in institutions with out-of-date and incomplete print collections.

C. Some the Essential Ingredients for Establishment of Such a New System

1. Adequate Content in Digital Format

Increasing amounts of law material are available in digital format -- on the Internet and on disk. Much of this content is offered without charge or proprietary claims, especially to those putting it to educational use. In some fields of U.S. law, particularly areas of federal law, the raw material for fairly complete course compilations can be drawn from free or very low fee sites.

In the distributed environment of the Internet gaps in the offerings of one institution can readily be filled by another. The process of moving law writing into digital format and even into the HTML format used on the World Wide Web has become ever cheaper and user friendly. The supplemental readings prepared by one instructor with twenty, thirty or one hundred students can, by means of this technology, be made available to others for reuse anywhere reached by the Internet.

2. Institutional Models

While the technology has become mature at a breath-taking rate (those in Silicon Valley speak of "Internet time"), our institutions have not kept pace. To realize the full benefits that digital information offers our teaching we need new models, probably a new framework.

The supply side has seen more movement than what I'll call the delivery side. Let me explain. Today Cornell's Legal Information Institute is far from alone. There are now a goodly number of non-profit activities connected to university law schools that are engaged in adding significant law content to the digital law library of the Internet and also structuring, filtering, and focusing that virtual library comprised of many sources for a distinct institutional, national, or regional set of users. A short illustrative list of those currently involved should include: Zambia Legal Information Institute - University of Zambia < http://lii.zamnet.zm/ >, Australasian Legal Information Institute - a joint project of the University of Technology, Sydney, and the University of New South Wales < http://www.austlii.edu.au/ >, the Centre for Research in Public Law - University of Montreal < http://www.droit.umontreal.ca/ >, the International Trade Law site hosted by the Law Faculty of the University of Tromsø < http://itl.irv.uit.no/trade_law/ > and the collections of South African law mounted by Wits Law School < http://www.law.wits.ac.za/ > and the University of Capetown Law Faculty < http://www.uct.ac.za/law/ >.

What have not emerged to date are successful models that show how this already ample content can be moved the critical last step -- into the hands of law teachers and their students -- especially in environments where widespread computer possession or access is not a present or near-term reality.

It appears to me that creation of an adequate framework for the encouragement and emergence such models entails at least three coordinated initiatives.

First, the Internet needs to be understood by law schools and law faculty everywhere as an open access publication and redistribution channel. Large institutes like Cornell's with massive collections may suggest falsely that the resource threshold is high. More and more universities around the globe have a Web server and offer space on it with varying levels of technical support to their law faculties. However, few law faculties have gone beyond mounting a faculty roster and some description of program to using this available resource for distributing faculty writing and other law content developed in support of individual courses. Law schools and law teachers are coming to appreciate that the Internet offers an unprecedented communication and research path. They need to move beyond seeing the Web as consumers and understand their potential role as contributors to the law content available to others via the Internet. The teacher or collection of teachers who set out to prepare the national companies act, constitution, or penal code for their students need to appreciate that at minimal incremental effort and almost no incremental expense those same materials can be banked digitally for their own future use and shared with others as part of the World Wide Web's virtual law library.

That shift in understanding and tangible fruits from it will come more rapidly as we find ways to fund and sustain institutions prepared to receive, organize, and maintain the digital contributions from other law schools and their faculties. During this century law schools and universities came to realize that creating a shared library, funded and staffed, in support of the work of the entire faculty and student body achieved levels of effectiveness that individual book collections did not. In some regions inter-library loan arrangements took the notion of sharing one further step. In the digital age, supra university arrangements become at once more important and less costly. That does not assure they will arise. An affirmative initiative aimed at finding ways to establish and sustain such arrangements is called for. And that entails grappling with issues of funding, institutional pride and turf, appropriate recognition and more.

Last but probably most easily accomplished is the need for development of cost-effective, user-friendly systems that will allow law teachers to configure, preview, and print out in volume course materials drawn from the World Wide Web's virtual law library and other digital sources. The basic components for such a system would include appropriate hardware, standard word processing software, new software designed to facilitate Web-based print preparation, and to the extent copyrighted works are involved, licensing arrangements. Where commercially held copyrights are a major impediment that may require coordinated creation of alternatives to existing copyright-protected sources.

VI. Are These Things Possible?

A. Some Major Impediments or Inhibiting Factors

1. Dependencies

The system I have sketched could be assembled by the very publishers who produce the course books we now use. Indeed, the unexamined assumption of most of my Cornell colleagues is that when the technology is ready to offer benefits of this kind the commercial publishers will provide it. That is an assumption the publishers have fostered as they have proclaimed various technology initiatives, only to see them fall short of promise or anticipated take up or both.

What the law publishers have tried to hide from those of us who have depended on them for prepared readings is how radically things have already changed. As the publishers have been merged and reorganized and old and familiar faces have been supplanted with new ones they continue to assure those in law teaching that nothing important is changing. So far they have largely succeeded in the U.S. because of how difficult it is for others, including those of us in legal education, to realize how digital information technology enables us to take over functions that were previously beyond our reach. Individually and collectively we can be our own publishers. We don't need commercial intermediaries any more, at least in the same way.

2. Institutional Technology Deficits

Independence usually comes at a price. During my time as dean of the Cornell Law School the unit achieved a much higher degree of fiscal authority than it had previously been granted by the university. It became possible for us to set tuition and fees and allocate the resulting funds without direct central control. But it also became essential for the school to hire more professional management staff to realize the potential gains in this greater independence and not founder.

Without minimal levels of technological expertise and training the promise of better readings through digital technology will remain only a promise and not a reality. For some law schools, perhaps most, acquiring the necessary expertise will mean adding staff or contracting for services of unfamiliar sorts at the expense of competing goods that all know and value -- a type of trade-off that is difficult in both analytic and political terms.

3. Other Cost Factors

For materials that are copyright protected working through the necessary licensing arrangements may prove difficult and costly. One of the aggregation functions that commercial publishers have always performed is providing the user a copyright compliant, fully licensed package of readings. Fortunately, in many legal traditions no copyright exists in basic legal materials. In others, the value to the public interest of unfiltered, free access to legal materials has led copyright holders to not only permit but encourage digital distribution. Equally fortunate is the fact that many if not most legal scholars who prepare texts of the sort others wish to use in their teaching do not prepare them in anticipation of financial return.

For some law schools realizing the full advantages of print on demand may require creation of duplicating facilities of much greater capacity, new mechanisms for student distribution and cost recovery.

4. Inertia

Academic institutions are deeply embedded in and affected by the broad cultural, technological and economic forces at work in the society. On the other hand, compared to many of the sectors to which they most directly relate, including in law the profession to which their students graduate, academic institutions are not agile. They are neither well suited to launching venturesome new initiatives nor to adapting their mission and practices to large-scale external changes. Most are not coordinated organizations. They are instead highly stratified and atomized, with the right hand often priding itself on not knowing what the left is up to. The resulting inertia is, I fear, the greatest impediment to realizing the potential gains available through digital technology.

B. New Possibilities for Long-Distance Collaboration (or Conscious Complementarity)

The good news is that technology that presents this challenging opportunity also loosens the limitations law schools place on the scope for innovation of individual faculty members and the limitations universities and nations place on their law schools. These are, after all, technologies that pay slight attention to distance and that can penetrate geographical, political and institutional boundaries that previously seemed utterly defining.

Long distance collaboration between those of similar or complementary interests is quite feasible and increasingly practiced in research and scholarship. It can work as well in the preparation of teaching materials. The Jurist site, created by Bernard Hibbits of the University of Pittsburgh School of Law < http://jurist.law.pitt.edu/ > the self-proclaimed "home page of legal education" has already become a cyber place where the electronic materials prepared by an instructor at one school are organized and catalogued for inspection (and appropriation) by others teaching a similar course. Nothing requires the use of Jurist or any of the subject specific resources to which it points. But given the distributed information available across the Net, conscious complementarity occurs. By "conscious complementary" I refer to the process that leads someone placing new material on the Net, indeed someone preparing material from the Net, to focus on adding to first-rate materials that are already available from one or more other sites rather than engaging in duplicative effort.

The resulting system is, like the Internet, not controlled but nonetheless coordinated, coordinated in a way that results in the potential course readings on the Net growing ever more comprehensive and deeper with each passing month.