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The Shape of the Internet in the Twenty-First Century

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have started as college students with the Internet is directly applicable and is available in the law practice as well.

Finally, the big question is what is the future going to look like? Is everything going to move to the Internet? How are people going to make money on the Internet? Where is the privacy? Where is the security? What about trademarks, copyright, libel? Those are the issues that are being debated today.

What we see happening is basically the creation of a seamless link. Eventually, probably in the very near future, there will be direct links to the Internet so that if you want *The American University Law Review* article that may have appeared in the constitutional law area, you could just go right to it. That connection will create a seamless web between the Internet and the online services, so the distinction will become invisible over time.

IV. THE SHAPE OF THE INTERNET IN THE TWENTY-FIRST CENTURY

MR. BRUCE: I am happy to be here this afternoon, and I am also somewhat horrified. There are people among you today to whom I owe a great deal of my thinking. Some of them will be speaking to you in the later panels. I just want to remind those people that we are obligated to respect the prevailing intellectual property paradigm of the Internet, which is that the sincerest form of flattery is theft.

(Laughter)

Let me start by inverting the typical rules of engagement for public speakers by telling you what I am not going to tell you. The first thing I do not want to talk about today is the law of cyberspace, beyond the observation that new and different places always have given rise to new and different kinds of work for lawyers. I suspect that we could keep a pretty full roster of faculty, students, and practitioners occupied well into the twenty-fifth century, let alone the twenty-first century, just on the basis of the recently-passed Telecommunications Act.[168] We would not even have to deal with the various issues of privacy, free speech, and dispute resolution—all issues that the Internet is spawning very rapidly. Human beings are not yet well settled in cyberspace, and neither is the law.

The other thing I am not going to do is what I call the "Buck Rogers in the twenty-fifth century speech," something that the title of this presentation strongly echoes. There is a lot of that sort of speech going around these days. I do not want to spend your time and mine demonstrating a lot of flashy technology that we do not understand

168. *See* Communications Decency Act of 1996, 47 U.S.C.A. § 223 (West Supp. 1996).

very well. In general, I do not want to do what I always think of as the "flying car speech." When I was growing up, it seemed very obvious to everyone that we all were going to have flying cars by 1990. I have yet to see one, or picture phones either for that matter.

I do want to remark that the twenty-first century is only a very few short years away. We are not too far from the point at which the students walking through the doors of places like this will be members of the class of 2000. I have to say that this fact came as something of a relief to me when I prepared this speech today because it meant that I do not have to look too far into the future. So what I really would like to talk about are some of the things that are happening around us now; the very important seeds of overwhelming change that will occur during the next decade, the next twenty years, or maybe the next century.

Somewhat in the spirit of those flying cars and picture phones, though, I want to nod very quickly to two groups of technologies, because I know people will have heard about them and will have questions regarding them. The first group of technologies I want to touch on is the group that helps us access text. These are the wonderful software devices that, we are told, will act like intelligent agents and run around the Net and tell us everything we want to know. An awful lot has been said about these, but not a lot has been done. More to the point, there are very practical limits to what can be done with this technology, short of providing computers with the ability to parse and understand natural language.

Almost certainly, we are going to be seeing great strides in information retrieval. We almost equally certainly will not be able to walk up to a machine and say, "Tell me everything I want to know." What if we *could* do that? Would it be a good thing? The problem of handling information in the context of the Internet is less one of access than it is of exclusion. This idea implies expert judgment and editorial activity. There is considerable evidence that, even in a situation where automated solutions are available now, professionals who are trying to find their way through large bodies of text prefer to use edited path finders in which they know expert judgment has been used rather than "black-box" solutions, which do not offer explanations of how particular texts are selected or ranked.[169] In sum, although an awful lot of filtering technology is already with us

169. For example, a lawyer most certainly would prefer a treatise written by a known authority in the field to a search engine, however intelligently constructed, which does not explain the basis on which it is ranking its selections.

and something resembling agent technology soon will be with us, we will need more than a few editors and librarians to tame this expanding universe of information.

The second group of technologies that get the quick nod and brush-off are visual and simulation technologies. You undoubtedly are hearing a lot about hypermedia, pictures, sounds, animation, video, and virtual reality techniques. Although these certainly are the hot tickets du jour, the legal profession either is not ready for them, or is too ready for them, depending on how you look at it. The reason I say this is simple. Lawyers, professors, and students have, with very few exceptions, neglected anything but print as a means of conveying information—up until now. As yet we do not have the vocabulary to convey legal abstractions graphically on a blackboard with chalk, let alone on a computer with virtual reality. So, although multimedia technology will be valuable, I tend to downplay it a little bit. It is not to say that we should not be working in these areas. In fact, I have become interested in the possibility of visual interfaces for case law retrieval myself. But, at this point, it seems very much that the technologies are presenting us with solutions for which we do not yet have problems.

So much for what I am not going to talk about.

What I am going to talk about are two "*D* words." There are a lot of places where the Internet already is providing us with the bewildering mix of problems and solutions that I believe to be the hallmark of a true revolution. My two *D* words represent two ways of conceptualizing this mix of problems and solutions.

The first of those is "disaggregation," which is a catch-all term for what happens when distributed information systems, like the Internet, make it possible to divide functions that formerly were under one organizational or physical roof into clusters of related activities carried out by different actors. Put differently, in a seamlessly linked hypertext environment,[170] many different content providers can build pieces of a comprehensive collection—for example, the laws of one of fifty states in a multistate collection—and the pieces can be connected together to form entities that look like the monolithic collections we have now. The entities I want to talk about with respect to disaggregation are not law firms—although we have heard much about virtual law firms—but the people who create and publish the law that those lawyers work with.

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170. *See supra* note 64 and accompanying text (describing hypertext linking technology); *supra* note 26 (describing computer language used to create hypertext links).

My second *D* word is "disintermediation." It sounds a lot nicer than "cutting out the informational middle man," but that is what it boils down to. Disintermediation is one of the Net's major side effects, but this is not the first time we have seen disintermediation in our lifetime. Its predecessors are found in the over-the-counter medicines that cut doctors and pharmacists out of the treatment process, direct dialing of telephone calls that cuts telephone operators out of the loop, and bank ATMs that cut bank tellers out of transactions. The Internet is, to some extent, an informational system that has the potential to cut out the middle man in several different ways at once.

Let us start with disaggregation. To disaggregate something implies that many people are doing what once was done by a single actor. For instance, the CD-ROM world is spawning an amazing number of niche publishers that can exist simply because their cost of publication is small. The incremental cost of publication is even smaller on the Net, and distributed hypertext technology, like the World Wide Web, gives any publisher the ability to build on top of the work of others, with or without their permission. The tendency toward niche publication on the Net is encouraged further by the demographics of the Net; of twenty million computer users on the global Internet, at least 100 will be interested in just about any subject a niche publisher cares to address. Many more niche publishers can survive in this environment because they not only can afford their own printing press, but they also can find an audience for what they have to say—even for something relatively narrow, such as the law of left-handed, red-headed architects, if you will.

Another characteristic of the disaggregated Net is that we are beginning to find different functionality coming from different sources. Four years ago, Villanova Professor Hank Perritt pointed out that a hypertext environment tends to unbundle the value chain that makes up publication.[171] In the world of print, an entity called a publisher takes material from an author and adds many forms of value to it. Professor Perritt did a very nice job of identifying ten types of value in four categories of processes in that chain.[172] He refers to the creation, organization, retrieval and assembly, and marketing processes.[173] I do not want to repeat his detailed analysis,

171. *See* Henry H. Perritt, Jr., *Electronic Records Management and Archives*, 53 U. PITT. L. REV. 963, 978 (1992) (considering electronic information system designed to ensure retention of archives traditionally stored as paper records and describing unbundling as process of breaking down information from earlier organizations and supplying separately to consumers).

172. *See id.* at 976.

173. *See id.* at 976-78 (discussing types of values added during organizing process including chunking and tagging, internal, and external pointers).

except to say that in the four intervening years, and particularly on the Web, we have seen exactly this sort of unbundling taking place, particularly as it applies to organizing value.[174] It is now commonplace for data to be organized or searched by someone other than its creator and by someone other than its publisher.

Search services, such as AltaVista,[175] Infoseek,[176] Lycos,[177] Yahoo,[178] or Excite,[179] allow data to be reorganized and people other than the author to search this data. A more complex example, and one that is of greater use to lawyers, is the Legal Information Institute's[180] construction of organizing searches in tables of contents atop an archive of Supreme Court decisions that actually exists at Case Western Reserve University.[181] The texts of the opinions themselves is stored on computers at Case Western. We have, with impunity, constructed tables of contents, topical indices, and other materials on our site at Cornell which merely *point to* those materials. The link between organizing material and the material being organized is a seamless one, constructed without an exchange of permissions. We have taken their material and have made it more presentable. We are a third-party value adder.

Once again, we see proliferation. Not only do we have an explosion of resources out there, but we also have an explosion of versions, levels of value added to resources, and matrices of content and treatment the cells of which can be occupied by organizations and individuals. Now, that is not all bad news. Because experts will have a tendency to publish their own materials in their own areas of specialty, the reader gets more value added. Additionally, it seems that the experts are enjoying a lot of the freedom that comes from

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174. *See generally id.* at 978 (discussing various ways third parties use databases organized by variety of entities, particularly United States government databases).

175. *See* Digital Equipment Corp., *supra* note 118.

176. *See* Infoseek Corp., *Infoseek Guide* (visited July 29, 1996) <http://guide.infoseek.com> (on file with *The American University Law Review*).

177. *See* Lycos, Inc., *Lycos Home Page* (visited July 29, 1996) <http://www.lycos.com> (on file with *The American University Law Review*).

178. *See* Yahoo! Inc., *Yahoo! Home Page* (visited July 29, 1996) <http://www.yahoo.com> (on file with *The American University Law Review*).

179. *See* Excite Inc., *Excite Home Page* (visited July 29, 1996) <http://www.excite.com> (on file with *The American University Law Review*).

180. *See* Cornell Law School, *What is the Legal Information Institute?* (visited July 29, 1996) <http://www.law.cornell.edu.lii.html> (on file with *The American University Law Review*) (explaining that Tom Bruce and Peter Martin established Legal Information Institute ("LII") in July 1992 and describing LII's goal as electronic dissemination of legal documents, publications, and course supplements via Internet or floppy disk).

181. *See* Legal Information Institute, *Decisions of the U.S. Supreme Court* (visited July 29, 1995) <http://www.law.cornell.edu/supct/supct.table.html> (on file with *The American University Law Review*) (providing table of contents and pointing to site that contains text of decisions).

controlling their own distribution pipes, their own printing press. Over time, I think this will lead to narrower, but deeper, information resources and a lot more headaches in selecting and organizing them.

We have a new cast of characters showing up on the publishing scene. It is clear that the new niche publishers are not, and will not be, the same old guys doing the same old things. Some of them are official bodies that are offering their information directly to the public; others are acting through intermediaries, such as the circuit courts (which offer opinions through law schools like Villanova[182] and Georgetown).[183] Some are law firms offering services to clients in the form of newsletters and analyses of current cases.[184] Some are organizations who do not publish at all and who are not associated with the law, for instance trade associations,[185] advocacy groups,[186] software

182. *See* Villanova Center for Information Law and Policy, *United States Court of Appeals for the Third Circuit* (last modified Mar. 29, 1996) <http://www.law.vill.edu/Fed-Ct/ca03.html> (on file with *The American University Law Review*); Villanova Center for Information Law and Policy, *United States Court of Appeals for the Ninth Circuit* (last modified Jan. 5, 1996) <http://www.law.vill.edu/Fed-Ct/ca09.html> (on file with *The American University Law Review*).

183. *See* Edward Bennett Williams Law Library, *United States Court of Appeals for the Federal Circuit* (last modified Mar. 29, 1996) <htpp://www.ll.georgetown.edu/cafed.html> (on file with *The American University Law Review*); Edward Bennett Williams Law Library, *United States Court of Appeals for the District of Columbia Circuit* (last modified Mar. 29, 1996) <http://www.ll.georgetown.edu/FED-Ct/cadc.html> (on file with *The American University Law Review*).

184. *See* Steptoe & Johnson, L.L.P., *Welcome to Steptoe & Johnson LLP* (visited Feb. 17, 1997) <http://www.steptoe.com/pubtoc.htm> (on file with *The American University Law Review*) (offering memorandum on recent developments in law and advisories for specific clients); Venable Attorneys at Law, *Venable Homepage*, *supra* note 97 (posting firm's environmental law newsletter, articles on variety of topics including intellectual property litigation, privatization of federal information technology requirements, and rights of veterans, and discussion of two significant encryption export control cases).

185. *See* Alliance Pastorale, *The Alliance Pastorale Home Page* (visited July 29, 1996) <http://www.alliancepastorale.fr/> (on file with *The American University Law Review*) (providing information to members about sheep and goat industry); American Automobile Association, *AAA Home Page* (last modified June 7, 1996) <http://www.aaa.com> (on file with *The American University Law Review*) (providing travel information to members); Northwest Playwrights Guild, *Welcome to the Home Page of the Northwest Playwrights Guild!* (last modified Aug. 3, 1996) <http://www.teleport.com/~bigscript/nwpg.htm> (on file with *The American University Law Review*) (describing guild's mission, providing member news, scripts, competitions, and links to related sites); Wagga Wagga Handweavers and Spinners Guild, Inc., *Wagga Wagga Handweavers and Spinners Guild, Inc. Home Page* (visited Aug. 8, 1996) <http://www.wagga.net.au/community/wwhsgi> (on file with *The American University Law Review*) (including guild information such as mini workshops, monthly meetings, and availability of tutors).

186. *See* AIDSNYC (visited Feb. 15, 1997) <http://www.aidsnyc.org/index.html> (on file with *The American University Law Review*) (providing collection of linked pages to assist people with HIV or AIDS); Electronic Privacy Information Center ("EPIC"), *EPIC Home Page* (visited Aug. 6, 1996) <http://www.epic.org> (on file with *The American University Law Review*) (stating that EPIC was established "to protect privacy, the First Amendment, and constitutional values" and providing links to "hot topics" such as counterterrorism proposals, medical privacy, welfare reform, and encryption export controls); Mothers Against Drunk Driving ("MADD"), *MADD Home Page* (visited July 29, 1996) <htpp://www.gran-net.com/madd/madd.html> (on file with

companies,[187] and writers.[188] For example, a lot of the information surrounding Microsoft's 1995 antitrust case (including the briefs) was placed online by one of the computer trade papers.[189]

So a logical question to ask at this point is: What will be the relationship between all of these niche-publisher little guys and the big guys? First, I think that the Westlaws[190] and the LEXISes[191] of the world will continue to be the big guys. Lawyers value the comprehensiveness of such services and the value they add in the form of headnotes, key numbering, interim citation of slip opinions, etc., and will continue to pay large sums for it. But there will also be an important place for the little guys; in fact, big guys and little guys will come to enjoy a kind of symbiosis.

Now, let me suggest a number of fairly obvious possibilities for that relationship, all of which I suspect will exist simultaneously. First, we will see little guys as retailers of what the big guys wholesale. For instance, if the National Organization for Women[192] walks up to LEXIS and says, "We want to make the opinion in *Roe v. Wade*[193] available to the whole world for a year with your markup," I would suspect that eventually LEXIS will respond with a price quote.

Second, the little guys will compete with the big guys in narrow niches. That is starting to happen in specialist collections and in

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The American University Law Review) (describing organization, listing services and programs, and providing information for prospective members).

187. *See* Apple Computers, Inc., *Welcome to Apple* (visited July 29, 1996) <http://www.apple.com> (on file with *The American University Law Review*) (describing latest developments and trends in Apple computers); Novell Corp., *Novell Education Home Page* (visited July 30, 1996) <http://education.novell.com> (on file with *The American University Law Review*) (providing product training and information).

188. *See* Matt Mower, *Protect Free Speech Rights for Racists* (visited Aug. 6, 1996) <http://www.uh.edu/campus/cougar/vol61/145/op3.html> (on file with *The American University Law Review*) (concluding that although some speech has negative impact, allowing government to censor such speech according to its content is more offensive than speech itself); Dana Pentoney et al., *The Right to Choose* (visited July 30, 1996) <http://www.fred.net/nhhs/essays/abortion.htm> (on file with *The American University Law Review*) (discussing current state of abortion law).

189. *See* Netsurfer Communications, Inc., *Microsoft and Antitrust* (visited July 30, 1996) <http://www.netsurf.com/nsf/v01/02/local/msft.html> (on file with *The American University Law Review*) (featuring lower court opinion, *United States v. Microsoft*, 159 F.R.D. 318, the Court of Appeals decision, 56 F.3d 1448 (D.C. Cir. 1995), and commentary surrounding legal dispute).

190. *See* West Publishing, *supra* note 2.

191. *See* LEXIS-NEXIS, *supra* note 1.

192. *See* National Organization for Women, *The National Organization for Women ("NOW") Home Page* (visited Jan. 2, 1997) <http://www.now.org> (on file with *The American University Law Review*).

193. *Cf.* West Pub. Co. v. Mead Data Cent., Inc. 616 F. Supp. 1571 (1985) (holding that Westlaw owns copyright page numbering and enjoining competitor from printing those page numbers).

areas that the big guys have not served well, for example, poverty law.[194]

The third possibility is that the little guys integrate with the big guys. Although integration could occur in a variety of ways, the most obvious scenario is when the large data providers maintain comprehensive general collections but direct the user to the specialty information that is offered by third parties. More interestingly, you can invert this scenario and imagine a different kind of big guy, one who provides organizing value for number of little guys. For instance, a third-party publisher might construct a treatise-like matrix of topical headings atop specialty collections of caselaw, or a large "name" publisher (a law review, for example) might thematically collect and present the self-published efforts of individual electronic authors.

What are the large-scale implications of all this? Cheaper information, more publishers, lots more competition, lower costs, and different actors as publishers. Again, you have to keep in mind that there are lots of people out there who have an interest in publishing legal information but who are not what we would think of currently as legal publishers—professional and trade organizations, journalists, advocacy groups, and even marketers. One of my favorite examples has been the notion of an imaginary safety equipment company, Safeco, that puts up a collection of OSHA regulations[195] as a marketing device.[196] For example, text on Safeco's home page might read: "Why do you need these marvelous Safeco steel-toed shoes? Because OSHA say so—right here, in this collection of regulations Safeco graciously has published."

There are implications for law firms as well. Among other things, there is no doubt that firms will be publishers. Some already put up newsletters and actual work product for distribution.[197] Finally, to

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194. *See, e.g.*, The Southern Poverty Law Center, *The Southern Poverty Law Center Home Page* (visited Aug. 6, 1996) <http://www.well.com/user/mdcb/bastions/splc.html> (on file with *The American University Law Review*) (setting forth Center's activities, which include providing legal aid to poor and fighting racism and hate crimes).

195. *See* United States Department of Labor Occupational Safety and Health Administration, *The USDOL OSHA Home Page* (visited Jan. 2, 1997) <http://www.osha.gov> (on file with *The American University Law Review*).

196. *See, e.g.*, Archangel Corp., *Welcome to Archangel* (visited Feb. 15, 1997) <http://www.archangelinc.com> (on file with *The American University Law Review*) (providing guidelines, documentation, and text needed to comply with safety and health requirements).

197. *See, e.g.*, Arent Fox Kintner Plotkin & Kahn, *supra* note 154 (offering various featured articles and publications prepared by firm attorneys); Lester & Associates, Ltd., *Law Memo 1: How to Register a Trademark* (visited July 30, 1996) <http://www.mnlaw.com/article001.htm> (on file with *The American University Law Review*) (providing introduction to process of obtaining trademark and suggesting that viewers contact firm for additional information); Steptoe & Johnson LLP, *Highlights of New Joint Stock Company Law of the Russian Federation* (visited Feb. 15, 1997) <http://www.steptoe.com/cismem.htm> (on file with *The American University Law Review*)

save the least surprising for last, there will be a lot more public access to law and legal information. In fact, we already have it, but we will see a lot more of it, with some rather important implications that come under the heading of the second D word.

I said disintermediation was the elimination of middle men. But who exactly are the middle men in this world? If you look around the legal universe, you see a number of people occupying that role. Publishers—I talked about them already—sit between the authors and the audience, on one hand, and the audience and the information, on the other. The second group of middle men is not a who but a what. Abstract information technologies or taxonomies are things we always have constructed to serve as an organizing intermediary between the large bulk of case law, statutes, and regulations, and us. We think of this bunch of products as being, vaguely, the work of librarians. Third, teachers stand squarely between students and information—sometimes, the students think, far too much so. Finally, lawyers themselves are an interface between clients and legal information.

Let us take them in order.

Under the present system, publishers are the principal adders of value. They derive a lot of power from their ability to control one or more of those types of value, particularly distribution. Under the Net regime, however, they no longer have that control, for they no longer control the distribution pipe. We are starting to see some examples of that erosion. For instance, students and teachers publish directly on the Net. Professor Bernard Hibbitts published an article on the Web that advocates completely abandoning the student-edited law review in favor of self-publication on the Web.[198] Although Professor Hibbitts does not seem terribly concerned about the fact that an awful lot more goes into law reviews than faculty articles, he does suggest other ways in which students might publish their writing. I believe that students will be very quick to adopt these methods because they amount to self-publication of work that employers will view favorably. It is only a matter of time before students discover that they can hang some work product out there where potential employers can see it. I suspect we are going to see a lot of that in the future.

(containing article explaining recently passed Russian Federation law).

198. *See* Bernard J. Hibbitts, *Last Writes? Re-assessing the Law Review in the Age of Cyberspace* (last modified June 4, 1996) <http://www.law.pitt.edu/hibbitts/lastrev.htm> (on file with *The American University Law Review*) (stating belief that transition from student-edited law reviews to self-publication by scholars is inevitable due to new technology currently available).

The second example we are seeing now is an obvious one; it is the direct release of judicial opinions, statutes, and regulations. Although there are plenty of instances, the most notable are the public distribution of circuit court opinions, coordinated by Villanova[199] and Georgetown,[200] and the distribution of EDGAR filings information by the Securities and Exchange Commission.[201] The direct release of documents by the courts and the agencies themselves without any intermediaries is a little more spotty, but it clearly is the wave of the future.

The question all of this raises is one of the future relationship between creators and publishers. The balance of power in that relationship always has favored the publisher, who controlled the distribution pipe. Insofar as they could shut off the channel between creator and audience, they could make or break content creators. In the new regime, however, I think the balance of power will shift back toward authors simply because publishers are losing control over distribution. There will be a need for branding and marketing value, which really only publishers can provide. But the overall balance of power will shift irrevocably.

On to taxonomies.

Print, as many people have pointed out, makes it a practical necessity that we build a relatively fixed, commonly referenced set of secondary sources that are arranged according to a taxonomy that has a common understanding among professionals. The diversity of print sources requires a set of finding aids, topically organized along subject-matter lines that correspond quite closely to the way in which a professional community "divides the world" of its professional activity. The Library of Congress' subject heading system is a good example of this type of print artifact. It is a comprehensive system, but it has serious drawbacks, the greatest of which is that it is so abstract that it satisfies almost no one, except perhaps library catalogers. It is not a people-oriented system. You do not walk up to it and say, "I'm a farmer. Where is the stuff for farmers?" You look under implements—agricultural—nineteenth century. I know very

199. *See* Villanova Center for Information Law and Policy, *United States Court of Appeals for the Third Circuit*, *supra* note 182; Villanova Center for Information Law and Policy, *United States Court of Appeals for the Ninth Circuit*, *supra* note 182.

200. *See* Edward Bennett Williams Law Library, *United States Court of Appeals for the Federal Circuit*, *supra* note 183; Edward Bennett Williams Law Library, *United States Court of Appeals for the District of Columbia Circuit*, *supra* note 183.

201. *See* United States Securities and Exchange Commission, *EDGAR Home Page* (visited July 30, 1996) <http://www.sec.gov> (on file with *The American University Law Review*) (containing all SEC filings 24 hours after they are filed).

few people who think of themselves as implements, dash, dash, agricultural, dash, dash, nineteenth century kinds of guys.

Electronic text, on the other hand, does not require a commonly understood classification system. For instance, by using the bookmarking features in a Web browser,[202] the user can construct his or her own information taxonomy very simply. You can mark those resources and organize them in any manner that you prefer. Although they are not very sophisticated features, they, along with things like PDQ[203] and ECLIPSE[204] searches, which serve a similar function in the major online services, offer everyone a way to build their own maps of professional terrain.

The real question, as Mr. Katsh has pointed out,[205] is whether, in constructing our own personal taxonomies at the expense of the more abstract but standardized ones, we are losing a common vocabulary about the business of lawyering. And as the traditional vocabulary erodes and becomes more personalized, how will we have a common identity as professionals? And more importantly, how will we define the borders of the profession?

Teachers—ah, teachers. In Peter Martin's "change-or-die speech," my colleague said this:

> Less visible to law faculty members and increasingly invisible to students are new electronic offerings of those entities old and new that seek to profit from an understanding that law students, eager to find the shortest path to a good grade, will pay significant sums for products that offer summary, synopsis, straightforward exposition instead of challenging questions. Unless law schools succeed in transforming old patterns, the fully networked school will have a marginalized faculty.[206]

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202. The "bookmark feature" automatically records a visited URL and allows the user to revisit the site in the future.

203. *See* Jim Burton, *Flow Charting PDQ* (visited Jan. 2, 1997) <http://www.zdnet.com/pccomp/sneakpeeks/wnby0896/chart.html> (on file with *The American University Law Review*) (describing Professional Diagrams Quickly ("PDQ") as software allowing rapid creation of complex flowcharts).

204. *See* Eclipse Technologies, Inc., *Eclipse Technologies* (visited Jan. 22, 1997) <http://www.eclipse-technologies.com/> (on file with *The American University Law Review*) (describing Eclipse Technologies data storage and retrieval products).

205. *See generally* M. ETHAN KATSH, LAW IN A DIGITAL WORLD (1995) (exploring nature of new information technologies and how they interact with learning and practicing law). Ethan Katsh also is a panelist in this Conference. *See infra* pp. 452-57.

206. Thomas R. Bruce, *Choregraphy for a Dancing Bear: The Web, Markets, and Strategies*, 4 LAW TECHN. J. 3 (Nov. 1995) <http://www.law.warwick.ac.uk/publications/ltj/v4n2/ltj4-2b.html> (citing Peter W. Martin, Opportunities for Research and Teaching Made Possible by New Technologies—Or Technology's Threats to Law and Law Schools as We Have Known Them, Address Before the American Association of Law Schools Mini-Workshop on Uses of Technology in Teaching and Research (Jan. 6, 1994)).

Within six months of that pronouncement, both Westlaw and LEXIS announced major new marketing initiatives aimed at law students. This is, of course, nothing new. These companies always have understood that the work habits formed in law schools persist through professional life. What is new is the extent to which the Internet makes law students accessible to them on a day-to-day basis via e-mail and Web browsers, and the extent to which law students could have access to products, such as electronic study aids and case books, offered independently of any approval or review by their faculty instructors, including commercial versions of something that I'm about to describe.

In the fall of 1996, for the first time, Cornell Law School will offer an intellectual property class in which the venue is electronic.[207] Students are drawn from four participating institutions in three time zones. Course materials and required readings will be distributed via a Web server. Interaction will take place via e-mail and video conference. The course being offered is one that would not otherwise have been available to students at their home institutions that are scattered across the United States. The institutions' financial arrangements show the professor as an adjunct. In this regime, what do words like "visiting faculty member," "of counsel," and "law firm" mean? How will the vocabulary change when you have technology that replaces time and distance in the way that this does?

One of the more interesting developments of the last few years has been Counsel Connect's[208] offering of "kibitzing rights" to law students,[209] a service that permits them to silently "sit in" on electronic discussions between practitioners. This has great appeal, because they are deeply, deeply curious about what real lawyers do and how they do it. Law schools, like a lot of professional schools, are hard put to offer programs that can fulfill or can compete with that fascination. Law schools also have been slightly more comfortable when they have been able to maintain some distance between their students and the profession. I do not think they will be able to do that in an environment where students have full-time electronic contact with those with whom they will be working in a few years. I

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207. *See* Peter W. Martin, *Copyright Law and Digital Works Course Syllabus* (Cornell Law School, Fall 1996 & Spring 1997) (on file with *The American University Law Review*) (describing course's subject matter). During each of the semester's 14 weeks, the equivalent of two classes will be conducted via the Internet, and one class will be held via video conference. *See id.* Each of the four participating schools, Cornell, Chicago-Kent, Colorado, and Kansas, may enroll up to eight students. *See id.*

208. *See* Counsel Connect, *supra* note 12.

209. *See supra* Part III (describing Law Schools Online service for law students).

think we tend to be a little more aware of this in geographically-isolated Ithaca than here in Washington, where students have contact with a variety of employers at the end of a Metro ride.

Think about a few things that are facts of life for us up in Ithaca. Most of our students know which firm will employ them by the time they begin their third year of law school. Many of them know before they begin their second year. At the same time, two-thirds of the foreign students in our LLM program are sent here by foreign companies that pay their tuitions so they can learn American law. Now, how long do you suppose it will be before someone puts those two facts together and reinvents apprenticeship? It would be very easy for a firm to say, "Work for us during the school year. You can interact with us electronically, and we will pick up the cost of your tuition." The terms we presently use—terms like "internship" and "externship"—take their names from geographical phenomena that networks make absolutely irrelevant.

Last and far from least, lawyers and clients. Public access to information has created a desire for simpler ways of finding that information and judging its import—in other words, simpler interfaces. By any measure, a lawyer represents a complex interface in the legal process.

Think about tax self-help books. You could argue, a bit perversely, perhaps, that the most widely-read piece of legal information in the country is the annual issue of J.K. Lasser's, *Your Income Tax*.[210] At least it was until J.K. Lasser began publishing tax software to replace it.[211]

The replacement of Lasser's book by software provides an interesting example for three reasons. First, tax self-help books and tax self-help software are absolutely pervasive. We all have to file income taxes. You could say that duress breeds the market for the books and the software. But I think something else is working to create that market. Simply put, a large segment of the population has encountered the text of the tax laws directly, and they have not liked what they have seen. The would-be taxpayer has three choices: to hire expert advice, to buy advice in the form of a handbook, or to get that same knowledge bottled slightly differently as a computer program.

Second, tax self-help software tends to have had an earlier incarnation as a book or text. This is important because it seems that

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210. *See* J.K. LASSER INSTITUTE, J.K. LASSER'S YOUR INCOME TAX 1996 (1995).

211. *See J.K. Lasser's Your Income Tax 1996* (visited Jan. 29, 1997) <http://www.mcp.com/mgr/lasser/> (on file with *The American University Law Review*) (allowing viewers to subscribe to J.K. Lasser online tax service).

executable software is not the only way lawyers will be replaced. Things like handbooks and simple text publications can serve that function as well.

Finally, tax self-help products are representative of a class of self-help information that builds on administrative law and regulatory information. We all know that administrative law has gotten increasingly important for the profession during the last fifty years. There is a large category of problems in this field that can be addressed by handbooks and by software, and I believe that this will happen.

The big question therefore becomes, if there are a lot of J.K. Lassers publishing their various helpful handbooks on the Internet, how will the legal profession react? I suspect that to the extent that lawyers act only as access paths for legal information, jobs will be at risk. A patent attorney once told me that his job in a corporate law department had consisted largely of reading the patent handbook to in-house clients. Although he was joking a little bit, it made me wonder what he would do if they could read it for themselves. It makes me wonder how many attorneys are like him. It seems to me that many attorneys maintain professional jurisdiction over their work by virtue of the control they have over the information they need. As more information providers emerge, obviously this control will erode, and the profession may erode with it.

A corollary question: Who is to explain public information to the public? The patent handbook does not provide the whole story; somebody has to apply it to the client's situation. Somebody has to counsel. Somebody has to look for exceptions and loopholes. Even now, this is not an activity that is exclusively the province of lawyers. Others, like accountants or informal representatives in administrative proceedings, do similar things. So do paralegals. They, like niche publishers, are well positioned to be presences in the emerging cyberspace.

The question, however, is not whether clients ought to be able to obtain their legal information online or whether lawyers are the people best qualified to interpret this information. The question is whether lawyers will abandon a protectionist paradigm before they miss all the action. That is a decision that will be made or not made, or made by not being made, by people, not technology, although technology will set the stage for it. That, if anything, is the keynote in all of this: The big news in the twenty-first century will not be technology itself. Technology is like the weather in my home town. It changes continuously.

The future that lies 100 years out is divided, as the future usually is, into a series of opportunities and challenges. The challenges amount to reconceiving what lawyering is in a world where there is wide access to information, little ability for a single profession to control access to that information, and potential for an even greater resentment of that profession should it try to impose tight control on information as a kind of protectionist reaction to that new world. The opportunities lie in the array of new roles and new arenas of work that future lawyers will occupy.

Thank you.

(Applause)

V. FREEDOMS V. RESTRICTIONS ON THE INTERNET

MR. PLESSER: I would like in this introduction to talk about copyright. There are two other speakers on encryption, so I will not talk about encryption. But, before I discuss copyright, let me tell you my practice perspective. I think that often helps in understanding where a speaker's comments come from. I represent many people in the online and Internet service field. We represent Commercial Internet Exchange,[212] which is an association of the largest Internet access providers. I think that more than ninety percent of the Internet traffic occurs through services provided by our members. So we are not the online services, but the true access providers, including MCI,[213] Sprint,[214] PSI,[215] and UUNet.[216] We also do a fair amount of work for MCI,[217] Netscape,[218] AOL,[219] CompuServe,[220] and others who are more direct players in the online business.

The freedom versus restriction issue is fascinating. When I was in high school, we spent a year on this issue of liberty versus security.

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212. Commercial Internet Exchange, *Welcome to the CIX Association* (last modified Jan. 3, 1997) <http://www.cix.org:80> (on file with *The American University Law Review*).

213. MCI, *Internet Resources* (visited Jan. 3, 1997) <http://www.mci.com.resources> (on file with *The American University Law Review*).

214. Sprint, *For Internet* (visited Jan. 3, 1997) <http://www.sprint.com/fornet> (on file with *The American University Law Review*).

215. PSINet, *Welcome to PSI* (visited Jan. 3, 1997) <http://www.psi.net> (on file with *The American University Law Review*).

216. UUNet, *UUNET Technologies Home Page* (visited Jan. 3, 1997) <http://www.uunet.com> (on file with *The American University Law Review*).

217. *See* MCI, *supra* note 213.

218. *See* Netscape Communications Corp., *supra* note 62.

219. *See* AOL, *supra* note 16.

220. *See* CompuServe, *supra* note 15.