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COLLAPSE OF THE STRUCTURE OF THE LEGAL RESEARCH UNIVERSE: THE IMPERATIVE OF DIGITAL INFORMATION

Robert C. Berring*

Legal research, in particular the way in which law schools provide legal research training to first-year law students, is the mom and apple pie issue of legal education. Everyone is willing to criticize the lack of it, praise the importance of it, or discuss the reasons it has not been done so well.¹ After all, the whole corpus of legal education is constructed around Dean Langdell's theory that the law library, the place where the law student conducts research, is the laboratory of the law,² and the process of legal research has been intertwined with the process of legal reasoning that is still the core of legal pedagogy. This is to say nothing of the popular perception that lawyers know how to find the law. While most people realize that no lawyer can hold all necessary legal doctrine inside of her brain, people assume, and expect, that lawyers know how to find the relevant law.

Given the conceptual centrality of legal research and the popular perception of its importance, the truly surprising thing about it is that so little has changed in the teaching of it, or rather that so little in the way of genuine innovation has been introduced into it intentionally.³ Legal research training is changing, and changing dramatically, but not through the planning or action of law schools. These events really place legal research training at a crossroads, and an issue that is devoted to the work of Marjorie Dick Rombauer is the perfect place to look at both how the

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1. There is continuing literature on the subject of legal research. An excellent, if dated treatment is Christine A. Brock, *Law Libraries and Librarians: A Revisionist History; or More than You Ever Wanted To Know*, 67 *Law Libr. J.* 325 (1974). Donald J. Dunn, *Why Legal Research Skills Declined, or When Two Rights Make a Wrong*, 85 *Law Libr. J.* 49 (1993), explores the topic through its competition with legal writing, but his footnotes cover most sources. See also Joyce Manna Janto & Lucinda D. Harrison-Cox, *Teaching Legal Research: Past and Present*, 84 *Law Libr. J.* 281 (1992).

2. Christopher Columbus Langdell, *Harvard Celebration Speeches*, 3 *Law Q. Rev.* 123, 124 (Frederick Pollock ed., 1887).

3. See, for example, the works of Fred Hicks. Professor Hicks set out the parameters of most law school programs and problems 70 years ago. Frederick C. Hicks, *The Teaching of Legal Bibliography*, 11 *Law Libr. J.* 1, 4-8 (1918).

situation is changing and how Professor Rombauer was well on the way to the best solution thirty years ago. Professor Rombauer's approach, incorporating research, writing, and analysis into one coherent stream, and using full time faculty as instructors, anticipated the need for critical re-evaluation of the area. Her vision stands as a reminder that the problem of presenting legal research in a serious, planned curriculum was both perceived and solved decades ago. But research training continued to be ignored, or treated with disdain. This Article will explore why the system could survive so long despite how poorly legal research training was done and why now, because of a change in the nature of legal information, solutions like Professor Rombauer's may be the only hope.

THE CHANGING ENVIRONMENT

1. *The Idea of Legal Authority*

Before we can explore the change that is occurring in the teaching of legal research, it is necessary to comprehend the nature of the change in legal information. Such a first step would be important in any discussion of subject-specific research training because it would be foolish to discuss the methodology of research training in any subject area divorced from that specialty's materials. But such an inquiry has heightened importance when one approaches law. The law, or at least the law as legal scholars commonly conceive it, is built around its source materials. Dean Langdell's use of judicial decisions as the central ingredient in legal education will be explored below; here it is important to note the very special way in which legal thinkers and legal practitioners have viewed published legal materials.

Legal materials have an almost mystical quality for the legal researcher. This is best exemplified by the fact that legal educators and lawyers have traditionally believed that law has "primary" sources, that is, that texts exist which are statements of the law itself. Unlike in a civil law jurisdiction where one could contend that the language of the code is the text of the law itself, in common law countries, especially in the United States, most of this primary authority is found, not in legislation or constitutions, but in the cases that interpret them or that indeed run beyond them. These are essentially the written work product of appellate judges. Yet these decisions of the courts are the stuff of primary authority. Jacobstein and Mersky's *Fundamentals of Legal Research* defines "mandatory authority" as "authority which a given court is bound

to follow. Mandatory authority is found in constitutional provisions, legislation and court decisions.”⁴ Another major text in the field, *How to Find the Law*, discusses a “research spectrum” which arrays legal authority on a continuum, with the primary sources at the far left end.⁵ These texts, reflective of the generally accepted consensus, inform the student that in law there are basic, findable sources. Each of these common textbooks then devotes far more space to the consideration of cases and case finding than to legislation or constitutional law.⁶ The doctrines of the law are built from findable pieces of hard data that traditionally have been expressed in the form of published judicial decisions. The point of the search is to locate the nugget of authority that is out there and use it in constructing one’s argument.

Given the significant discussion currently taking place in fields like cognitive studies about what constitutes authority, and why people rely on certain authority and not others, the fact that law is still based on a theory that holds that there are final sources needing only to be found seems odd.⁷ To believe that there are definitive, primary sources that contain truth needing only the correct interpretation to be understood is an amazing phenomenon. It harkens back to the age of Blackstone and his belief that law was like a science which lent itself to analysis in the same way that natural science did.⁸

By stating that law believes in the existence of absolute authority, I do not imply that modern theorists of law do not know and appreciate the absurdity of asserting absolutes. A great body of work has imported modern concepts of cognitive theory into the law.⁹ Legal theorists are

4. J. Myron Jacobstein & Roy M. Mersky, *Fundamentals of Legal Research* xxxiv (5th ed. 1990).

5. Morris L. Cohen & Robert C. Berring, *How to Find the Law* 377 (8th ed. 1983).

6. Jacobstein & Mersky, *supra* note 4, devotes three chapters to cases, one to case digests, and one to annotated law reports. This totals 116 pages of coverage. Federal legislation gets one chapter and 28 pages; state and municipal legislation receive one chapter and 17 pages. Cohen & Berring, *supra* note 5, devotes three chapters and 131 pages to cases, case verification and case finding. Legislation of all sorts receives one chapter and 54 pages. Most legal research courses make heavier use of the case-based chapters than even these numbers indicate.

7. Patrick Wilson, *Secondhand Knowledge: An Inquiry into Cognitive Authority* (1983), is a wonderful introduction to this question. It has an especially useful discussion of the use of authority in the professions, focusing on law and medicine. *Id.* at 131–34. In a different way, George Lakoff and Mark Johnson’s *Metaphors We Live By* (1980) demonstrates some of the same ideas.

8. This period and this idea are explored in Daniel J. Boorstin, *The Mysterious Science of the Law* (1941). The ideas are directly traceable to Langdell and his followers as well.

9. The work of the prolific Stephen L. Winter, exemplified in *Transcendental Nonsense, Metaphoric Reasoning, and the Cognitive Stakes for Law*, 137 U. Pa. L. Rev. 1105 (1989), is one example. Robert Cover’s *Foreword: Nomos and Narrative*, 97 Harv. L. Rev. 4 (1983), is another. Indeed, recent interest in Wittgenstein’s theories in relation to law is perhaps the ultimate in anti-

increasingly sophisticated, or should be, about knowledge and language. Even those who work in the area of doctrinal studies are wiser than the old absolutist myth would make them appear. Since the demise of theories of natural law as the undergirding for the common law system, there has been little theoretical possibility for staking out a common law apart from the judges who make it and the society in which they live.¹⁰ Holmes knew a century ago that the life of the law is “experience.”¹¹ This understanding that the decisions of judges, no less than the enactments of the legislature, are only uncertain products of human enterprise, as subjective as any other human creation, makes the continued focus on marshalling authority in the law even more impressive. Legal scholars have recognized on an intellectual level that there is no grand scheme in the common law, and that the judge who writes the opinion is not a sage-like being who is only holding up a nugget of eternal truth but is more likely to be a political appointee relying on the work of the recent law school graduates who are his clerks for help. Yet on the practical level legal theorists continue to parse and analyze cases in much the same manner as their forebears. Therefore the practice of law has continued to lean heavily on finding, reading, and relating cases. The profession’s obsession with tying cases together has not abated.

As an example of the legal profession’s fixation on the treatment and importance of cases, consider the Shepard’s citation system. The whole purpose of the Shepard’s system, with its obsession with tracking each subsequent citation of a chosen case by a judicial author in a subsequent

absolutisms. See Thomas Morawetz et al., *Wittgenstein and Legal Theory* (Dennis M. Patterson ed., 1992). Even writers on legal research methodology have dealt with this issue. E.g., Steven M. Barkan, *Deconstructing Legal Research: A Law Librarian’s Commentary on Critical Legal Studies*, 79 *Law Libr. J.* 617 (1987).

10. Examining the prefaces of great common law works demonstrates that traditional common law scholars saw the system of the common law as built upon a foundation of natural or divine law. As Blackstone put it:

This law of nature, being [co-equal] with mankind, and dictated by God himself, is of course superior in obligation to any other. It is binding over all the globe in all countries, and at all times: no human laws are of any validity, if contrary to this; and such of them as are valid derive all their force, and all their authority, mediately or immediately, from this original.

1 William Blackstone, *Commentaries* *41. The structure of the common law was justified by its conformance with a divinely constructed natural law. This underlying structure was what the judge was exploring.

11. Oliver Wendell Holmes, Jr., *The Common Law* 1 (1881).

case, is to allow the linking of case authority.¹² Legal researchers do not just look for cases that are overruled or reversed; they seek any mention of a case that might indicate its growing strength or apparent weakness. Each case is just an entry point into a network of cross-citations and clustered references. This ability of a case to wax and wane in authority should inform the legal researcher that the authority is not absolute, but still it is seen as such, at least until dethroned by a subsequent judicial offering. The practice of law continues to treat judicial decisions as primary sources.

Contributing to the continuance of this system is the pedagogy of legal education, a central theory of which remains grounded in teaching students to employ careful reading and rigorous analysis to draw the abstract principles out of judicial decisions, so that the process of reasoning and analogy used by the judges and the professors can be emulated. Building these structures of syllogism becomes paramount for the law student and is the centerpiece of the system which views its purpose as training her to think “like a lawyer.” Combining judicial decisions and the Socratic classroom style have been the twin roots of legal education and legal thinking for 100 years. Nor has the fire died out. Professor Sunstein’s recent article, *Commentary: On Analogical Reasoning*, is a modern restatement of the use of the authority of judicial opinions to create logical structures.¹³ Legal education has been constructed on a foundation of abstract legal thought and that thought was given structure and meaning by the information system that produced legal publications.

Given the special nature of the role of authority in the law, one can see why the systems used to locate relevant materials in legal research take on special urgency. The legal researcher is working through the very elements, the raw materials, that Langdell felt had to be worked over by the law student as a part of his “scientific” research. Finding the case that contained the exact point, the case on “all fours,” became an obsession. Such a case, if from the proper jurisdiction and properly vetted for continuing vitality via a search of the Shepard’s volumes, was primary authority, a statement of the law itself.

12. Patti Ogden’s *“Mastering the Lawless Science of Our Law”*: *A Story of Legal Citation Indexes*, 85 *Law Libr. J.* 1 (1993), is a wonderful tour through the history of Shepard’s and how it came to exercise such power.

13. Cass R. Sunstein, *Commentary: On Analogical Reasoning*, 106 *Harv. L. Rev.* 741 (1993). One could hardly do better than an article by one so respected as Professor Sunstein in the *Harvard Law Review* if one wished a statement of the traditional approach eloquently put.

Because legal researchers are so accustomed to this idea, it is difficult to realize how unique this concept is in the world of information. In most fields in the humanities or social sciences, a search of the literature will reveal certain orthodoxies or prevailing views, certain points in contention with each side having its own warrior-like adherents, but there are no points of primary authority. There are no nuggets of truth or treasure. This explains the fascination of Patrick Wilson in his study of authority with the situation in the law.¹⁴ Legal researchers believe that there are answers out there that are not just powerfully persuasive, but are the law itself.

As mentioned above, this argument appears sensible when made concerning legislation or even, derivatively, administrative law. Because the democratically driven law making process allows for legislators to make law, it would seem that there is absolute law to be found. The law making process should produce nuggets of absolute law, should it not? Indeed, the field of legislative history research has developed to assist the researcher in finding deeper meaning than the words of the statute itself. Even here, however, cynics have long since pointed out that absolute meaning and authority are more shadow than stone.¹⁵ The idea that the metonymy that is Congress ever *has* an intent that can be expressed and unified is insane. Even assuming that each legislator has a clear and informed intent at the point when a piece of legislation is voted upon, which is a real stretch, legislators who vote together may have entirely different motivations. At times the language of legislation is intentionally vague or ambiguous just so needed votes from legislators who are not in complete harmony can be assembled. Often the courts are needed to give concrete meaning to the language that the legislature has passed. But when in the process of elucidating the meaning of the words of the statute, the court presents its findings as a determination of what the legislature really meant, it is falling victim to the oldest myths of legal structure. Such a court is no more revealing the hidden, but extant

14. Wilson, *supra* note 7.

15. Justice Scalia has become identified with this position. “[L]egislative history . . . is not merely a waste of research time and ink; it is a false and disruptive lesson in the law.” *Conroy v. Aniskoff*, 113 S. Ct. 1562, 1567 (1993) (Scalia, J., concurring); *see also* Joan Biskupic, *Scalia Sees No Justice in Trying To Judge Intent of Congress on a Law*, Wash. Post, May 11, 1993, at A4. The first chapter of Frickey and Eskridge’s casebook on legislation which describes the genesis of the Civil Rights Act is also instructive. William N. Eskridge & Philip P. Frickey, *Cases and Materials on Legislation: Statutes and the Creation of Public Policy* (1988). Peter C. Schanck’s *The Only Game in Town: An Introduction to Interpretive Theory, Statutory Construction, and Legislative Histories*, 38 Kan. L. Rev. 815 (1990), is a thoughtful extension of literary theory into this area. It is an excellent introduction to the literature in this area.

reality of a mystical congressional intent than the common law judge is passing on absolute pre-existing tenets of the common law. Some fascinating studies of legislation are now being produced, and while they may differ, one common thread is that none contend that the legislature is creating unalloyed bits of primary authority. Beyond dispute is the continuing need to give meaning to the authority created by the legislature.

So again the question returns to the area of judicial opinions, the very area that is the center of the legal research enterprise. Again this theory encounters difficulties. What is the judge doing? The system does not wish to admit that judges make law on their own, but clearly the judges have no reservoir from which to draw the law.¹⁶ This undeniable Zen koan explains the recurring obsession in American legal scholarship with the concept of judicial law making and judicial review. When one tries to parse out just how this system works rationally, the discussion quickly degenerates. The best minds continually bang away to try to reconstruct it, but the fact that they keep trying is evidence that judicial review just cannot be explained if the traditional myth is accepted as the premise.¹⁷ But while explaining the theory presents problems, as long as legal information was controlled in a closed ended system, it would work. In other words, the great thinkers were seeking an explanation for how such a system could work through theory, but the answer may well lie in something as practical as the legal information system itself.

As a driving force behind the legal system, the concept of abstract legal principles as extruded from the opinions of appellate judges has survived the succeeding waves of jurisprudential theory crashing on the beaches of American law. Legal realism, critical legal studies, critical race theory, and each other variant on the traditional theme laid siege to the old grand theory of the common law. But the system of legal research, of finding primary sources and interpreting them as if they are

16. One solution is the structural policing offered by Owen M. Fiss, *Objectivity and Interpretation*, 34 Stan. L. Rev. 739 (1982). In a striking discussion of the authority of judges, Professor Fiss says that one reason that judges must be obeyed is that they represent authority. *Id.* at 755-56. This is as straightforward an avoidance of the problem of how judges make law that the author has seen and reflects the degree to which cases as authority are internalized. They are authoritative because they are authoritative.

17. See, e.g., John H. Ely, *Democracy and Distrust* (1980); Jesse H. Choper, *Judicial Review and the National Political Process* (1980); R. H. Clark, *A New Theory of Judicial Review: A Critical Analysis of John Hart Ely's Democracy and Distrust*, 11 Cap. U. L. Rev. 33 (1981); Erwin Chemerinsky, *Foreword: The Vanishing Constitution*, 103 Harv. L. Rev. 43 (1989); Robert L. Clinton, *Marbury v. Madison and Judicial Review* (1989).

nuggets of absolute authority and truth, survives and flourishes. Though almost seventy years ago, a commentator such as Cardozo could write:

Adherence to precedent was once a steadying force, the guarantee, as it seemed, of stability and certainty. We would not sacrifice any of the brood, and now the spawning progeny, forgetful of our mercy, are rending those who spared them. Increase of numbers has not made for increase of respect. The output of a multitude of minds must be expected to contain its proportion of vagaries. So vast a brood includes the defective and the helpless. An avalanche of decisions by tribunals great and small is producing a situation where citation of precedent is tending to count for less, and appeal to an informing principle is tending to count for more.¹⁸

We continue to base our system of thought around cases. We have not, at least overtly, turned to Cardozo's "informing principle"; one still finds string citation to cases everywhere. Two things Cardozo wrote about this problem are especially noteworthy.

The first is that the situation Cardozo described has worsened a thousandfold in the intervening years. There is a lot more law now. The second is that he refers directly to the decision of the American legal community to print all of its cases, a decision that will be discussed below. Most important to understand is the contradiction between theory and practice, and how this can be sustained. The theory of primary sources and ultimate answers survives because it is so embedded in the life of the law itself.

Given this unique nature of legal sources, it is important to understand the way in which lawyers use legal information. I do not mean the way in which lawyers carry out legal research—we have never been able to get much of a handle on that—but instead the way in which they conceptualize and use information. To understand this conceptualization of legal research, it is best to move away from traditional methods and develop a different model for thinking about legal information. To accomplish this we introduce the model of an information system.

2. *Information Systems*

To approach this problem effectively it will help to use the concept of the information system. An information system is an ordering of any form of data in a way that makes it understandable and retrievable.

18. Benjamin N. Cardozo, *The Growth of the Law* 4–5 (1924).

Think of every information system as having two parts. The first part is the database of information, the second part is the organizing system. No matter what form of information system one approaches, these two principles come into play. The information system model can be used to arrange pure data, or to array objects. It is as complex as an enormous on-line database, or as simple as one's wallet.

An example may be the best approach to understanding this idea. My favorite example is one drawn from my son's baseball card collection. My older son owns several hundred baseball cards. These baseball cards are the data. So long as my son is content to simply pile the cards up, there is no need for any external organizing system. Even an apparently random pile can serve his purposes. Perhaps he has so few cards, or such a good memory, that he can recall with sufficient specificity what cards he owns and where in the pile they are. This is not unlike the chronically messy professor whose office appears to be a chaotic jumble, but who can find everything. If the database of information, here the boy's baseball cards, remains manageably small, the finding systems supplied by his internal organizational system, his memory, will serve. But if my son accumulates very many cards, or if he wishes to retrieve cards with greater precision, his memory will not be enough. He will need some tool, some external organizing system that will allow him to find a desired card from the mass of cards. The question of how to achieve that end arises. This is a point of dilemma reached by most information systems. Database size is the single biggest problem in any information system.

At this point of the dilemma the question becomes how to array the data, that is, what organizing system to use so that the system retrieves what the system user wants. Using my son's cards as an example, how could he know where and how to find, for example, the card for Dennis Eckersley, without looking through each card in the stack until luck served him?

My son did arrive at this dilemma and he asked me for assistance. Thinking like a lawyer and a librarian, I pointed out to my son that the company that manufactures the baseball cards had anticipated his need and provided a perfectly suitable organizing system. In the upper left hand corner of the back of each card there is a number assigned by the manufacturer to the card for that particular player or special card. The numbers run seriatim and allow one to put the cards in numerical order. The company then prints checklist cards that list the baseball cards by number and player name, so that one can retrieve a player card by its unique number. This system seemed rational to me. It allowed for

comprehensive arrangement of the data with a predictable retrieval system. It was a system that had been in place for years, and which was used, with only slight variation, by each company that produces baseball cards.

My son, unencumbered by training in bibliography or law and unimpressed by tradition, pointed out that for his purposes there were many flaws in this arrangement. The numbered arrangement served no purpose except for organization. That is, the numbered sequence meant nothing to him. It also required a double look-up. He first had to consult the checklist card, then find his player by name, and then find the numbered card in the sequence. Taking it to another level, he pointed out several alternative arrangements that served his purposes better and that were single look-up systems. For example, if the cards were arranged alphabetically by the last name of the player depicted on them, one could retrieve a desired card by a player's last name without first going to the checklist to find the proper number. He then suggested that one might want to have the cards arranged by the position played by the player, for example, grouping all of the pitchers together, or by the team affiliation of the player, for example, allowing one to retrieve all of the Miami Marlins. He then suggested that it might be wise to arrange the cards by the birth date of each player, or by how proficient the player was. This process of grouping towards different methods for ordering the cards continued. At the end of a long list of possible organizing systems, he suggested the physical attractiveness, or to be more precise, the ugliness, of the player as pictured on the card. When I pointed out that each player's ugliness was a subjective judgment, my son pointed out that it was his set of cards so his judgment was what mattered most. In these latter arrangements, of course, the name of the player was not so important as his age, position, team, or attractiveness. Each represented a separate sorting algorithm. Each was valuable to my son, the system's user.

What my son had done was reject a pre-coordinated indexing system that had been created by the baseball card company. A pre-coordinated index is one in which the index designer determines an organizing system that will serve all users. Such systems are built as ways to organize data and are generally universal. The numbering system produced by the baseball card company had several strengths that are normally associated with good, closed ended, pre-coordinated systems. It was universal, it was comprehensive, and it was easily understood. It provided a unique location for each card, and, so long as one understood the Arabic numbering system, one could use it. But it also possessed the

inherent flaws of such a system. The numerical system was comprehensive, but in striving to produce a universally applicable system it ignored the potential idiosyncrasies of its users. This is understandable because the baseball cards are three dimensional. Because they exist as objects, and thus can only be put into one arrangement, a pre-coordinated index has to deal with this problem by putting its data in the most general possible arrangement. The use of the checklist card method to allow the user to find a specific player also means that the user must perform a double look-up, that is, each search will have two stages, each time one wants to locate a specific card. Double look-ups require extra steps. Researchers much prefer single-step systems, but as just explained, the physical form of the data limits the system to one arrangement. The baseball card company's system was comprehensible to my son, but it did not meet his needs. The baseball card example proves to be quite relevant for legal information.

3. *Traditional Legal Information Systems*

The baseball card example explains a great deal about the systems used to organize legal information. Think of the system of reporting judicial opinions. The judicial opinions are the data. When the number of published cases was small, the organizing system for locating a specific decision was simple. A lawyer who wished to locate a specific case relied on the powers of memory to sort information. Daniel Webster did not need an elaborate external organizing system to order his data; he used his brain.¹⁹ Daniel Webster probably read every case that was published by every American appellate court, and probably read English cases as well. Indeed, for the lawyers of his generation the problem was getting the data, the judicial decisions, at all. Judicial decisions were published sporadically and idiosyncratically, with no quality control.²⁰ Once a lawyer like Webster had found cases, he then relied on his own memory to store and order them. Of course he might supplement his memory with his own system of note taking, a personal and customized organizing system. Webster was finding the data and

19. Researchers continue to pursue the organizing system used within the brain. John R. Searle's *The Rediscovery of the Mind* (1992) is a good, if opinionated, summary of current theories. For our purposes, the process can be a black box.

20. Craig Joyce's *The Rise of the Supreme Court Reporter: An Institutional Perspective on Marshall Court Ascendancy*, 83 Mich. L. Rev. 1291 (1985), is a helpful exploration of how subjective and idiosyncratic the publication of even United States Supreme Court decisions were in the early nineteenth century.

using his own internal organizing system to order it. This situation accounts for the laments of the nineteenth century lawyer about the avalanche of cases when production of published opinions was, by our standards, rather modest.²¹ These lawyers were watching a way of life, or more accurately, a way of thinking slipping away. In a way, Daniel Webster parallels my son in his information system. My son's original set of baseball cards was small enough to be idiosyncratically arranged to useful ends. The test of any organizing system comes when the database expands, and that is precisely what happened to the database of cases.

There had been some primitive attempts at creating organizing systems, but they reflected the small size of the database and the lack of systematization then common in law. The best known of these, called abridgments, were little more than lists of cases, often in no discernible order.²² The other major finding tool was the lawyer's notebook, his own recollection of cases. Because of the relative paucity of books, lawyers developed a close relationship with printed sources, even pre-dating Langdell's innovations. Still, this whole system was slipping away in the second half of the nineteenth century. The database was simply getting too large. The data cried out for an organizing system.

The West Publishing Company changed the face of legal publishing and remade the structure of legal thinking by providing one.²³ West remade American law with its development of the National Reporter System and the American Digest System. In events that have been well chronicled elsewhere, John B. West, the company's founder, decided to publish every available case in a standard, inexpensive format.²⁴ John West was not a lawyer or a librarian; he was a salesman. The decision to publish every available case, instead of publishing only the cases chosen by a group of legal worthies, as in the way that most reporters then in existence were constructed, was a marketing choice.²⁵ But it had

21. J.L. High, *What Shall Be Done With The Reports?*, 16 Am. L. Rev. 429 (1882), is a classic lament on the over-publication of cases. What would Mr. High think if he entered a law library today?

22. A.W.B. Simpson, *The Rise and Fall of the Legal Treatise: Legal Principles and the Forms of Legal Literature*, 48 U. Chi. L. Rev. 632, 636 (1981).

23. Robert C. Berring, *Legal Research and Legal Concepts: Where Form Molds Substance*, 75 Cal. L. Rev. 15, 24-25 (1987).

24. Thomas A. Woxland, "Forever Associated with the Practice of Law": *The Early Years of the West Publishing Company*, 5 Legal Reference Services Q. 115, 118-19 (1985). Professor Woxland has done significant research on the history of the West Company, and is an excellent source.

25. There is one recorded expression of John West's philosophy. It is to be found in *Symposium of Legal Publishers*, 23 Am. L. Rev. 396 (1889). Contrasting West's remarks to those of James Briggs, an old-style publisher also included in the Symposium, is quite enlightening.

profound implications. This decision, combined with the continuing growth of the legal system in the United States, led to a dramatic increase in the raw number of cases, the database. No longer could anyone's internal system organize the flood of cases. The memory of all but the savant was overwhelmed by the sheer size of the database. The Daniel Webster system of memory and personal notebooks could no longer prevail. It became impossible for the normal researcher to read all the cases. A premium would now be placed on systems that helped one locate cases by subject.

Such a database called for a sophisticated organizing system to make the information, here the cases, retrievable. West understood this and bought the rights to the best existing subject classification system in American law and had experts revise it.²⁶ The product was the American Digest System with its Topics and Key Number arrangement. The digest system is a prototype organizing system. It is pre-coordinated in that the producer, West, has pre-determined what the indexing needs of the user are. Here West produced a subject breakdown of every possible subject which could be the topic of an issue of law that could be resolved by a judge in an appellate decision. In effect, West produced what Daniel Dabney once called "a universe of thinkable thoughts."²⁷ No judge could determine a point that did not have a location in the West system; it was complete. The conservative aspects of this are obvious.²⁸ New ideas and theories are classified back into existing categories. New fields like civil rights law or feminist jurisprudence are broken apart and dropped into pre-existing categories. West would add new topics, but only when absolutely compelled to do so by major changes, and only after the passage of many years. The system was premised on its stability.

The system is also universal. West published cases from all jurisdictions in a standard format, abstracted the points of law in a standard manner and processed them through the digest classification stream. Only a rudimentary knowledge of the federal nature of American law is required to recognize how bizarre it is to think that one

26. Erwin C. Surrency's *History of American Law Publishing* 111-27 (1990) contains a good account of this interesting process.

27. Daniel P. Dabney used this term in a lecture he gave to my class. His article, *The Curse of Thamus: An Analysis of Full-Text Legal Document Retrieval*, 78 *Law. Libr. J.* 5 (1986), remains one of the clearest explanations of how a pre-coordinated index works.

28. Richard Delgado & Jean Stefancic, *Why Do We Tell the Same Stories?: Law Reform, Critical Librarianship, and the Triple Helix Dilemma*, 42 *Stan. L. Rev.* 207 (1989). See also Robert C. Berring, *Full-Text Databases and Legal Research: Backing into the Future*, 1 *High Tech. L.J.* 27, 33-37 (1986).

subject classification system could serve all the states and the federal system as well. One of the most salient facts about the American federal system is the difference between the legal systems of jurisdictions. To apply a uniform subject arrangement to California, Delaware, and New York is marvelously crazy, and it only grew crazier as the jurisdictions grew more complex and law played a larger role. But the digest system prospered, and the only explanation can be that the power of the system sustained it.²⁹

Of course, the entire West digest system was the product of the end of the nineteenth century, and it met the needs of the lawyers of that era. The system also dovetailed neatly with the model of legal education that Dean Langdell had installed at Harvard Law School in the 1870s.³⁰ The major divisions of the digest system's topics mirror the first-year courses at Harvard, indeed the first-year curriculum at most law schools today.³¹ Thus, the stamp of the nineteenth century was indelibly placed on American law. As the digest system became universally accepted, and as all law schools adopted the Harvard method, these categorizations became internalized in American law to the point where they now seem only natural. Recent work in the power of categorization and classification help reveal that any such scheme is no more natural than its utility.³² But the nineteenth century left another legacy. Like all other publications from that period, reported decisions were printed on paper, in a tangible, physical form.

Because the cases and the indexes to them took this physical form, meaning that they were tangible, they could only be arranged one way. Recall the baseball card example. It is true that an individual headnote in

29. This is not to discount the movements at harmonization that characterized the early twentieth century like the efforts of the American Law Institute or the National Conference of Commissioners on Uniform State Laws. Those efforts were real but piecemeal and were never related intentionally into the digest system. They proceeded in a separate universe.

30. See Robert Stevens's *Law School: Legal Education in America From the 1850s to the 1980s* (1983) for a discussion of this era.

31. The seven digest topics are: Persons, Property, Contracts, Torts, Crimes, Remedies, and Government. The first-year curriculum at Boalt Hall, a typical course load for major law schools, consists of Property, Contracts, Torts, Criminal Law, Civil Procedure, and Constitutional Law. Remedies are covered in Property, Contracts, and Torts, and Government is covered in Civil Procedure and Constitutional Law.

32. This is a broad area. An introduction can be gained by reading *Social Science Concepts: A Systematic Analysis* (Giovanni Sartori ed. 1984). Extensions of the concept based on Wittgenstein's concept of "family resemblance" and Lakoff and Johnson's radial categories can be found in David Collier & J. Mahon, *Conceptual Stretching Revisited: Alternative Views of Categories in Comparative Analysis*, 87 Am. Pol. Sci. Rev. 845 (1993). The bibliography is a rich vein of the literature in the field.

a case might be given two addresses in the digest system, but the system itself, printed on paper, could only take one organizational structure. The books could only be printed in one order. Using such a system is, of course, quite different from using one's memory, where the same data can be organized in a seemingly limitless number of ways. To return for a moment to my son and his baseball cards, after our discussion of various organizing systems, I pointed out that he had to choose one. He pointed out that another solution would be to purchase new sets of baseball cards and to arrange them by each separate method. While I declined this offered solution, the same one was available to law. Anyone else could have taken the body of cases, prepared abstracts and arranged them in a different system. Indeed, for certain jurisdictions and certain courts, this was, and is, done. But no one could do it on the scale of West because of the size and the cost of the enterprise. The West Publishing Company could have done separate arrangements, but why would it? West had a pre-coordinated index that they felt covered all of law in its one arrangement. As time passed and that system became the accepted standard, West had little reason to doubt its utility. West has always viewed itself as the servant of the legal profession, not a leader of it.

One alternative arrangement, the alphabetic arrangement of judicial opinions by the name of the parties, did come into existence. This piece of information was easy to collect and could be restated without tremendous effort and cost. Because the listing was so short, it never took more than one or two volumes, so that it could be redone alongside the subject digest volumes. These volumes, known as Table of Cases, appear in every digest.

The information system based on these West products, supplemented in an important way by the Shepard's Citations System, allowed the growing database of cases to be controlled. It also set the tone for legal research training. The legal information system intertwined itself with the organization of law itself. Given Langdell's stress on categorizing the law into inflexible subject areas, and the focus on law as finding primary sources, the legal information system played an especially dominant role.³³ How one organizes the law became the center of what the law could and did mean. While this was a conscious process for Langdell and for West, as time passed legal scholars forgot that choices had been made and began to see the existing categories as inevitable; thus the gestalt of case law was created.

33. Christopher Columbus Langdell, *A Selection of Cases on the Law of Contracts* vi-vii (1871).

Until recent years the prevailing paradigm for legal research training was the finding of cases. Locating relevant precedent, analyzing it, citing it correctly, and checking its validity were the principal components of the legal research enterprise. Though legislative and administrative materials may have been acknowledged as primary sources of law, the bulk of legal research pedagogy was geared toward cases. Because the case method of instruction has remained firmly rooted in legal education, this is only sensible. This situation made sloppy legal research training possible because working with cases was part of a gestalt process of law school education. The West digest system was grouping legal concepts into recognizable categories that were embedded in the courses as taught in the classroom, and which were in fact part of the intellectual wherewithal of the law school professor and the judge. Even if the lawyer never really understood how the digest system operated at a functional level, he could still become comfortable with its categories. The universe as sketched out by the West Publishing Company was the only universe available. Once the student was introduced to Key Numbers, the rest could follow in a fairly unsystematic way. Secondary sources were indeed secondary and could be learned as needed, legislation would be organized around cases, and administrative law would come as needed in practice. Legal research was a part of the hothouse of legal education: an artificial world where only the cases, cases arranged and sorted by West for so long that the arrangement and sorting seemed almost preordained, really mattered.

This explains how legal research training could be allowed to be so random and poor for so long. For reasons cataloged in incredible detail elsewhere, legal research training languished.³⁴ Courses in legal bibliography developed, and there were fights over methodology and staffing, but the battle was always carried out in an environment where the course was outside the mainstream of the law student's experience. Legal research training was thus spotty at best, and the old saw was that the better the law school, the worse the legal research training program. (The training program at the Harvard Law School in the fall of 1978 was

34. The heated exchange of articles between Christopher and Jill Wren and Robert Berring and Kathleen Vanden Heuvel provides both a discussion of the methodology of legal research and a wealth of footnotes to almost any article ever written on the topic. See Christopher G. Wren & Jill Robinson Wren, *The Teaching of Legal Research*, 80 Law Libr. J. 7 (1988); Robert C. Berring & Kathleen Vanden Heuvel, *Legal Research: Should Students Learn It or Wing It?*, 81 Law Libr. J. 431 (1989); Christopher G. Wren & Jill Robinson Wren, *Reviving Legal Research: A Reply to Berring and Vanden Heuvel*, 82 Law Libr. J. 463 (1990); Robert C. Berring & Kathleen Vanden Heuvel, *Legal Research: A Final Response*, 82 Law Libr. J. 495 (1990). There is no need to reprise the footnotes here.

a voluntary one offered by the Board of Student Advisers, a student group.)

Such a situation developed because legal research was not really separate from legal thought. The publication and processing of cases became second nature to the law student through a process akin to osmosis. When the whole process of professional socialization for the law student centers on reading, analyzing, and categorizing judicial opinions, the research methods that help one find such opinions seem routine and mechanical. The actual location of information was part of the gestalt process, but only the mechanical part, and one that was simple enough to be self-taught by a bright person. The prevailing method of instruction in legal research reinforced this view by relying upon treasure hunt type exercises, requiring students to look up specific citations and report back specific findings. This was rote work and was perceived by the students as such. The courses in legal research suffered.

4. *Professor Rombauer's Innovation*

Professor Rombauer came upon this scene and upped the intellectual ante. She designed a program at the University of Washington School of Law that was premised on the importance of legal research. She saw that the materials and methods of legal research could not be separated from the process of analyzing issues and written expression. Her approach to research recognized the gestalt involved in the research process and addressed it directly.³⁵ It used regular faculty and provided an integrated and intellectually neat approach to the subject. Her textbook remains a bold statement integrating legal thinking, research and reasoning into a coherent whole.³⁶ It is different in kind both from the texts that are bibliographically based and the currently popular process books. It places legal research into an important context. The Rombauer approach does not treat legal research training as separate from the rest of the law student's first-year experience. The legal research process is an inherent part of the analyzing and categorizing function.

Professor Rombauer's ideas were implemented at the University of Washington. She set out a curriculum that combined the skills of research, analysis, and writing and linked it to the rest of the first-year

35. Marjorie Dick Rombauer, *First-Year Legal Research and Writing: Then and Now*, 25 J. Legal Educ. 538 (1973).

36. Marjorie Dick Rombauer, *Legal Problem Solving: Analysis, Research & Writing* (5th ed. 1991).

experience. To make such a program work it had to be staffed by regular faculty. The course had to be, and be seen as, part of the mainstream of the first-year experience. And so it was. Her plan had the wherewithal to succeed. But the plan did not work. Teaching legal research is hard work, calling for a major investment in time from the participating faculty. The students need individual feedback, and significant amounts of it, if the course is to succeed. A time commitment of this nature is very different than that required by the normal large lecture format of the first-year course, and of course, is quite different from the situation where the only feedback required from the professor is the one exam to be graded at the end of the course. Further, the faculty had to understand both how to carry out effective legal research and appreciate the pedagogy of the new approach themselves, no mean feat. For Professor Rombauer's plan to work, the participating faculty would have to understand the nature of the important shift in theory implied by the course.

But more than that, such a course did not fit into the traditional model of legal education. By its nature it was difficult to teach outside the normal constraints of the Langdellian paradigm. This course was different from the rest of the curriculum. It was not part of the accepted universe. Worse yet, it smacked of being clinical in nature, and for all of the pious words uttered in praise of clinical education, and the repeated efforts of the American Bar Association to compel the leading law schools to take clinical education seriously, it remains separate from the "real" law school experience. Thus there was no glory for the faculty who participated in the course. They were not seen as important innovators by their colleagues, and that is not how they viewed themselves. For all of the hard work and effort that they would invest, they would be repaid with no credit for "real" work. The continuing debate over the balance between valuing teaching and valuing research in making promotion and tenure decisions need not be reprised here. It is enough to observe that where teaching is valued, it is secondary, and that clinical teaching of the type required by this new course would not provide anything like an equitable return on faculty time invested. Who would staff such a course? The natural choice is the junior faculty, those who do not have tenure, and who need to be most calculating in how time is spent. It did not take long for faculty to decide that this program was not worth the effort, and the noble experiment came to an end.

Professor Rombauer took legal research seriously. She listened to the hortatory language of generations of legal poobahs and designed a course of study that might actually teach students research in an integrated

fashion. The experiment that Professor Rombauer initiated provided an answer to the dilemma of research; she took the problem seriously and she devised an answer that integrated the finding functions of legal research into the analytical ones. She also recognized and dealt with the roles of other source materials. It was a breakthrough.

The problem was that law schools were unwilling to support the innovation, perhaps even unable to comprehend it. The old system had enough life to roll on for another generation. The revolution of electronic information was still on the horizon, perhaps over the horizon, but Professor Rombauer was able to envision the need for a change in the way legal research was performed before exigent circumstances made it absolutely necessary. As long as the gestalt of the case method, and the prop of the West digest system underwrote the system, it could live on. Professor Rombauer's program became a legend among those who took legal research seriously, a legend that demonstrated the stubborn resistance of the legal education establishment to real solutions to the problem of legal research.

But now the bill is due. Changes in the last few years have damaged the traditional legal information system in such a way that we are in the midst of a major paradigm shift. Legal information is out of control. The next section will explore why the landscape of legal information has changed, and why Professor Rombauer has changed from a visionary to someone who knows how to maneuver the lifeboats.

5. *The Present Situation in Legal Information*

To understand the current crisis in legal information, we must return to the model of an information system. The relevant database for legal information was judicial opinions—judicial opinions as filtered through the West system. But this has changed and is different in two ways.

The first change is in the sheer number of judicial opinions. This is important because the size of the database makes a material difference. It is estimated by West that 60,000 cases entered into its printed reporter systems last year. Perhaps another 40,000 appeared exclusively in an electronic format.³⁷ There is no printed organizing system (at least none with the complexity of the National Reporter System and the American Digest System) that can handle that much input without becoming unmanageable. To be blunt, there is just too much stuff. The American

37. This estimate was given by Dorothy Molstead, Production Manager at West Publishing, to the author in the spring of 1992.

Digest System was designed in an era when less than a thousand cases a year were published. Even then the prospect of a thousand cases was viewed as a dangerous amount of information. Remember that lawyers and judges in the late nineteenth century felt overwhelmed by cases. It is a tribute to the old system that it weathered the storms of data for this long, but it has begun to crack. Digest volumes are growing at a frightening pace; the West Company must issue its Decennial Digest in two parts, one coming out every five years, because the sheer volume of a ten year cumulation would be absurd. An even more graphic example is the West Federal Digest System. The Federal Digest lasted until 1940, when it was closed. The Modern Federal Practice Digest covers more than twenty years, but the current iterations will be lucky to contain the cases in ten year blocks. The federal digests are becoming decennials. But even if the printed volumes could accommodate the system, the volume of published cases is breaking down the intellectual structure of the system, weakening what we have called the gestalt of legal thought. No order can be brought to such chaos. Where the research enterprise once consisted of finding a relevant precedent or two and exploring the universe of cases around them, now each side in any dispute can find bunches of relevant cases. String citations to great gobs of cases are typical, and briefs continue to expand, each page packed with "relevant" authority. Whatever linear nature precedent could once claim is now gone. It is not surprising; no system could survive so much data and stay in the rigid control that was typical of the West digest system.

The second major change in the pattern of legal information is the advent of the full-text on-line research systems: Westlaw and LEXIS. At a basic level, these systems added nothing new; they simply took information that had been contained in books and transferred it to electronic form. But beyond that basic fact, there are several profound ways in which the on-line databases change the legal information system.

First, the information is no longer stored in one place in one way. The database no longer has a three dimensional, tangible quality to it. The nature of electronic information is that it is stored in a manner dictated by the machine environment, and can be recalled in as many ways as one designs into the system. This means that one can pull up parts of the database, or the entire thing, in a variety of arrangements limited only by the system's design and the searcher's creativity.

Recall the baseball card example. If my son had his collection of baseball cards in an electronic format, complete with stored pictures of the players, and if he had equipment with color display ability and good search software he would escape all of his organizational problems. He

could recall particular cards by name, by team, by position, by birth date, indeed, by any system of tagging that the company which produced the cards had built in, and perhaps by some personal systems that he could create. The barrier presented by a single physical manifestation of each card is now gone. This is what happened to cases. The physical representation of the cases is no longer in control, indeed, the electronic representation of the cases now controls the finding systems. The cases can be retrieved in whatever variety of ways the researcher decides to be useful, and no one system has to dominate.

There was early debate over whether this method of storage of legal information precluded reliable citation of the material, since it now did not exist in three dimensional form. Understanding that the information contained in a judicial opinion was just as valid when stored electronically called for an adjustment in attitude about what information was “real.”³⁸ Given the long term dependence of the law upon its books, it is hardly surprising that many lawyers on the far side of a legal information generation gap feel that information has to be printed on paper to be real. The ultimate arbiter of reality in law, the Uniform System of Citation, went through several iterations ignoring the on-line systems before they were incorporated. Now each database has its own system of internal citation. As more and more lawyers come from the new generation of information users who see information, whether on paper or in electronic format, as fungible, the storage in non-tangible form will seem increasingly natural.

A further elaboration of this change is the growth in the use of non-judicial source materials. As the world has changed, and as the coin of judicial precedent has been debased by overpublication, the use of non-judicial sources has increased. Legislation is now at the center of the research endeavor, and it shares center stage with administrative materials. Westlaw and LEXIS make legislative and administrative materials available in profusion and solve the difficulties that used to be inherent in researching the latter especially. Materials that were once held in the sub-basements of only the best law libraries are now as easily retrieved on LEXIS and Westlaw as a Supreme Court decision. International materials are also increasingly available. The same is true

38. The fact that only printed information is seen as being “real” relates to deep cultural biases. See Geoffrey Nunberg, *The Places of Books in the Age of Electronic Reproduction*, 42 *Representations* 13 (1993), for background. “‘The book’ here stands in a metonymy for all of the material circumstances of print culture. . . .” *Id.* at 15. Ethan Katsch sets out some of the same ideas in *The Electronic Media and the Transformation of Law* (1989), and expands them in *Law in a Digital World: Computer Networks and Cyberspace*, 38 *Vill. L. Rev.* 403 (1993).

of secondary sources and even non-legal research sources. The researcher who turns on her LEXIS subscription today is the virtual equivalent of the researcher walking into the Harvard Law Library in 1960. The rare materials are not there, but much non-legal information is, and it is a good trade-off. Thus the databases have expanded the literature that is easily accessible.³⁹

In addition to the possibilities for tagging the cases in the database with all manner of hooks to extract it, LEXIS and Westlaw provide the researcher with the capacity to perform word searches on the full text database using Boolean logic. The tool of Boolean logic, when combined with the existence of the full text of judicial opinions, means an entirely different form of organizational logic can be brought to bear to find materials. Boolean logic allows the researcher to look for specific words or combinations of words in a document, specifying proximity if desired.⁴⁰ By allowing the user to search for specific terms or roots in combination with other terms or roots, or in specified proximity to them, a whole new logic of organizing the legal information system has been introduced. Instead of a pre-coordinated index into which all data is funneled, the database now stands open for post-coordinated indexing by the searcher. An adept Boolean searcher can specify terms and combinations of terms that allow her to create her own subset of opinions based on her own criteria. And each foray into the database is new. The searcher is empowered to carry out a new post-publication reorganization of the database each time she searches. Thus there is no longer a need to rely on the West system to organize information before it reaches the researcher; the researcher can go to the database whenever she wishes and create a new search algorithm each time.

This is not to contend that many researchers are adept at Boolean searching.⁴¹ It remains a difficult task, but the possibility of escaping from the old system is now real. More importantly, the old paradigm is not the only way to understand the law. One does not have to be a part of the "gestalt" any longer; the new system has a plasticity and vibrancy all its own. The magnitude of this change cannot be understood solely

39. There are also signs of change in the Langdellian model of legal education that comprises the other half of the case law gestalt. That change is the subject of another article, but it seems that after 110 years of ascendancy, legal education may be willing to back off the reading and analysis of appellate cases as the only way to train new professionals.

40. Anyone feeling the need of a fuller description of Boolean logic is referred to footnote 7 in Berring, *supra* note 28, at 28, which provides more background than one really needs.

41. Berring, *supra* note 23, at 26-27; Berring, *supra* note 28, at 38-39; Dabney, *supra* note 27, at 18-20.

by examining the area of legal research; rather it must be seen in the context of the greater question of how we think about the law. Once both on-line systems began to supply each student at each ABA accredited law school with free passwords with 24-hour access, the whole pattern of law student information use changed.

Part of this change is due to the generation gap in information use. The typical law student of today is not a product of the culture of the book and is just as likely to use an electronic source as a print source. But a large part of it is the convenience of use. LEXIS, with its glorious NEXIS database offering full-text access to a world of legal and non-legal information, is especially seductive to the student.

This form of access breaks the gestalt because the students no longer must work within the constraints of the West digesting system. Indeed, students no longer need to even come to Langdell's laboratory of the law, the library, to work. They can do it via modem from home. Thus, the last vestiges of control imposed by the West system, the last form of the glue of subject structure, is gone. In May of 1993 there was a debate about electronic legal research among law librarians on the electronic bulletin board used as a forum by law librarians.⁴² On one side were the professionals who felt that it was crucial to train first-year law students in using paper research. On the other side were the professionals who felt electronic research was inevitable. A common assumption on both sides was that students preferred using the on-line systems. Issues of cost, sloppiness, and vendor control raged, but no one doubted what the mass of students preferred. In a telling analogy, Charles Ten Brink of the University of Chicago Law Library opined that librarians urging the law students to use the old paper-based systems for legal research were like people urging folks to eat vegetables at a buffet, while the LEXIS and Westlaw representatives were offering them a table of Big Macs and Twinkies. The students want to use the on-line systems.

6. *The New World of Legal Research Training*

This profound change in the nature of the legal information system produces a similarly crucial change in the environment of research training. No longer can the sloppy methodologies of the past be accepted. Students cannot learn research through the osmosis of constant exposure to the gestalt of case theory; they must approach it as a

42. The bulletin board is called law-lib and is an Internet bulletin board run out of the University of California at Davis Law Library.

systematic enterprise. No longer is the universe limited to judicial opinions. Now the world consists of legislation, administrative materials, practice tools, factual materials, and a world of uncontrolled sources. No longer is legal research the hothouse environment that it once was. Yet legal education has been slow to respond to this challenge. It is amazing that in 1993 law students still read casebooks, desiccated collections of appellate opinions. But rather than being the introduction to the old world of the case categorizations of West, the textbooks now are the last bastion of the case gestalt. The rest of the research world is changing. And much of this change is reflected in the research training that the law students receive, and the way in which they receive it.

The biggest practical change has come from LEXIS and Westlaw. Each vendor realized that the best method to popularize its system was to have people use it when they were students. Taking a long term view, each vendor determined to underwrite, at a significant loss, programs to introduce law students to its system. An enormous amount of free equipment was given to law school libraries in the form of permanent learning centers and to law schools in the form of local area network support for faculty. Each vendor provides documentation in a variety of formats and maintains national staffs of academic representatives to provide and coordinate the in-person training of law students. For many American law students the only common research training experience they receive is the training provided by LEXIS and Westlaw, a training experience that will follow the student into practice if he or she works in a large law firm environment.⁴³

These high quality research guides, incentive-driven training programs, and specialized training modules are only the beginning. The vendors also provide 24-hour 800 telephone numbers that allow the user to consult with an expert attorney/database searcher for research help or advice. The vendors even allow free printing on law library machines and underwrite the cost of paper and ink to the law libraries.⁴⁴ These

43. Some law schools, like Boalt Hall, allow the vendor representative to train first-year students. This is based on the adversary system concept that each should provide the best view of their own product. Other schools, like USC, exclude the vendor representatives on the theory that they are biased. Still, the amount of resources spent per student on on-line training by the vendors is several quantum beyond what any law school can, or will, spend.

44. LEXIS spent \$600,000 in 1992 on paper and ink alone. Wayne Greenberg, then the coordinator of academic programs at LEXIS, provided this figure during a speech at the Twentieth Anniversary Celebration Conference in Dayton in April, 1993. It is worth noting that Mr. Greenberg, a former Associate Dean at Tulane Law School, was hired away from academia by LEXIS to head up this program.

massive investments look especially impressive when compared with the tiny amounts most schools commit to the research and writing program that they offer, and, as Professor Dunn has recently discussed so eloquently, the majority of those resources go to the teaching of legal writing.⁴⁵

The biggest change of all, however, has been the distribution of free 24-hour home use passwords to law students. Each law student at each accredited law school that subscribes can get such a number. The number can be used via a modem to gain access to LEXIS or Westlaw wherever and whenever the student wishes. The student no longer must come into the library to use a computer dedicated to the legal research database. The student can sit at home and work on his computer via a modem. The law student in 1993 is freed from the subject constraints of the old case law gestalt, and from the physical constraint of having to go to the information. Information is no longer in discrete book form, and one need not travel to consult it.

The nature of legal research has changed. Under the old system, sloppy research instruction was not fatal. The student could blunder along, safe in the controlled environment. Research was an intricate part of analysis. This explains the grouping of research, writing, and analysis into one course at many law schools. The purely mechanical aspects of research, of finding the right book, were minimal. But this is no longer the case. Now the research environment is rich, and getting richer. The on-line databases are not the last word—the scene of legal publication is shifting rapidly. Given the plethora of choices now available to the researcher, how can one know what to do? What is clear is that intuitive, on-the-fly searching, supported by the familiar law of the digest system and West's world view is impossible. We now need research training that is devoted to research skills, that sees those skills as useful and vital. Finding information, information of all sorts, not just cases, will be a vital function of the twenty-first century lawyer.

The world where legal research training could be forgotten because the law student or young lawyer would learn it "on the job" is gone. Finding materials, and carrying out good searches, are important skills. Legal education had better start paying attention to them.

Professor Rombauer's ideas are still there, and still look like a fresh approach to these questions. The need for an integrated first-year research course, staffed by faculty and providing training in the methods

45. Dunn, *supra* note 1, at 55–56.

of twenty-first century research combined with the skills of analysis and writing has never been clearer. This is not a course where the teaching responsibility can be handed to second- and third-year law students; it needs tenure track faculty. For participating faculty this will mean a requisite education in twenty-first century research skills, but what could be more appropriate? Perhaps it is time that legal research lead the way in the first year of law school. Legal education should see that rather than being a visionary, Professor Rombauer has become a savior.

7. *Conclusion*

Professor Rombauer saw research as a fulcrum around which to turn the law school experience. She saw that it required full time faculty and serious resources. She saw that it could not be taught by second- and third-year law students who only know what they had learned from other second- and third-year law students. To meet these needs she designed an innovative program. The world was not yet ready. Legal education was not prepared to escape from its old paradigm. Now, the time has come. In the midst of an information revolution that it cannot stop and seems hardly to understand, the legal profession must reassess the very way it thinks about legal research and legal research training. It would be appropriate to use the vision of Professor Rombauer as an inspiration and guide as we go about trying to solve this puzzle.