Integrating Manual and Computer Legal Research

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Integration, applied to legal research, is the buzz-word of the day.[1] In today's computerized world, the use of the word integration in the context of legal research is very encouraging. It means we have passed through the discovery phase of computerized legal research systems and are moving toward the using phase. In the discovery phase we learned that machine-readable databases cannot do everything and that these online systems are not likely to replace totally more traditional printed legal resources. And, at this juncture, we come face to face with another reality. How do we fold the use of computerized legal information systems into the processes we already have developed for solving legal problems? Do traditional printed resources simply parallel computerized systems or can the legal research tools of yesterday and today be used together to give access to even more and better legal information? After over fifteen years of working with LEXIS and WESTLAW, the last six of which have seen intensive use in academic, court, and private law libraries, law librarians, attorneys, judges, and law clerks have become aware of the need to more fully coordinate their use of computer and manual research tools.

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1. For example: a newsletter which just began publication is entitled *Integrated Legal Research*; "integrating manual and computer research," M. Cohen and R. Berring, *How to Find the Law* 139 (8th ed. 1983) (hereinafter Cohen & Berring); "speaking of CALR as not integrated into the text," Snyder, "Review Essay: Legal Research Books, Manuals, and Guides—More than Enough," 80 *Law Libr. J.* 307, 310 (1988) (hereinafter Snyder); in the Preface, "fail to integrate CALR properly" and "attempt to integrate legal databases," K. Carrick, *LEXIS: A Legal Research Manual* iii (1989) (hereinafter Carrick); Jacobs, "Teaching Students to Use Full-Text Online Databases: Course Design and Integration," 19 *Law Libr.* 56 (no. 2 Aug. 1988). *But see* Berring and Vanden Heuvel, "Legal Research: Should Students Learn It or Wing It?" 81 *Law Libr. J.* 431 (1989) (hereinafter cited as Berring & Vanden Heuvel). The authors argue that integration relating to legal research is really not a new concept at all, but rather one espoused and used by Professor Frederick Hicks in 1918.

In his editor's column, Professor Barkan has suggested that integrating legal research can be discussed at five different levels. This essay is concerned only with the first, functionally integrating traditional printed research tools with new research, primarily computerized, technologies. Barkan, "From the Editor: Integrating Legal Research," 2 *Integrated Legal Research* 1 (No. 1, Sum. 1989) (hereinafter Barkan).

The kind of training law students receive today in legal research can be discovered by reviewing both the periodical literature[2] and the standard textbooks written for legal research courses. Although the legal research programs for first-year law students vary widely from school to school, most contain a CALR[3] component. At some schools, WESTLAW and LEXIS are taught very early in the first-year program and, at others, midway through the year. Some schools do not teach first-year students how to use CALR systems at all. Training, instead, is only provided to second- and third-year students.[4]

Most programs teach the computer portion in chunks of time, training the students in all facets of WESTLAW and/or LEXIS at one time. Temporary or permanent learning centers,[5] usually set up by the vendors, have greatly encouraged this practice. From small and experimental CALR training programs in the early 1980s, today most academic law librarians are heavily involved in organizing and often teaching CALR systems to law students.

CALR training programs in law schools have often been added with little or no additional staffing provided. Most programs are barely able to cope with providing the basic training and can do so only for set, limited periods of time during the academic year. This kind of program cannot by its very nature encourage integration. To date, law schools have paid little attention to the integration of manual and computerized legal research tools.

This changing role of computer-assisted legal research can also be seen by looking at the standard legal research textbooks. As early as the mid-1970s, these textbooks contained a few pages about computerized databases. The information about CALR has really expanded in recent years.[6] Now there is often a chapter on computerized tools as

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2. The two most recent articles on legal research training appeared in the *Law Library Journal. See* Berring & Vanden Heuvel, *supra* note 1 and Woxland, "Why Can't Johnny Research? or It All Started with Christopher Columbus Langdell," 81 *Law Libr. J.* 451 (1989). Historical developments are best covered in several earlier articles. *See, e.g.,* Mills, "Legal Research Instruction in Law Schools, The State of the Art or, Why Law School Graduates Do Not Know How to Find the Law," 70 *Law Libr. J.* 343 (1977) and Hicks, "The Teaching of Legal Bibliography," 11 *Law Libr. J.* 1 (1918).

3. Computer-Assisted Legal Retrieval or Computer-Assisted Legal Research.

4. *See generally* Edwards, "LEXIS and WESTLAW Instruction in the Law School: University of Oklahoma," 76 *Law Libr. J.* 605 (1983); Silecchia, *Legal Research Education in American Law Schools: Survey Results* (1989) (unpublished copy of survey results only); "How the Law Schools Teach LEXIS and WESTLAW," Audiotapes of Program 82-36 at the Annual Meeting of the American Association of Law Libraries, Detroit, Michigan (1982); "Teaching Research Skills: How Successful Are We?" Audiotapes of Program 86-B2 at the Annual Meeting of the American Association of Law Libraries, Washington, D.C. (1986).

5. A temporary learning center (TLC) normally means that the CALR vendor is supplying hardware (terminals, keyboards, modems), telephone lines, and passwords to create (for a two- to eight-week period) a temporary computer laboratory for CALR training at the law school. In some cases, the vendor has agreed to install a permanent center (PLC) for such training. If a law school has a computer lab for this purpose, the vendor still supplies needed telephone lines, modems, and passwords for the training sessions. *See generally* Edwards, "LEXIS and WESTLAW Training Centers: Law School Opportunities," 80 *Law Libr. J.* 459 (1988).

6. Compare Professor Rombauer's 4 pages in 1973 to her 31 pages in 1983. M. Rombauer, *Legal Problem Solving* 141–44 (2d ed. 1973) and M. Rombauer, *Legal Problem Solving* 259–90 (4th ed. 1983) (hereinafter Rombauer) or in *How to Find the Law* the 5 pages of coverage in 1976 to the over 20 pages in 1983. M. Cohen, *How to Find the Law* 459–64 (7th ed. 1976) and Cohen & Berring, *supra* note 1, 693–703 and over 9 pages scattered throughout the text.

well as discussions throughout the text which treat the computers as sources of information. Or, as you will see in Cohen, Berring & Olson's 9th edition of *How To Find the Law*, no separate chapter on computers is included at all, but all references to computer systems are incorporated in their respective bibliographic chapters.[7] Generally, sample computer searches and other "how to and why" information are not included in these treatments. CALR databases are treated as sources of legal materials and information, not as tools in their own right. On the other hand, Professor Carrick's new work, *LEXIS: A Legal Research Manual*,[8] is revolutionary in its treatment of computerized legal databases. She has truly integrated fundamental legal bibliographic information about printed sources with the use of computers as a research tool. Hers is clearly a how-to manual with many examples and tips for the use of LEXIS.[9]

Another development of note impacting legal research training has been the so-called process-oriented approach which is epitomized by Christopher and Jill Wren in their text, *The Legal Research Manual*. First published in 1983, this text has deleted most bibliographic and conceptual information about sets of law books and concentrates on fact and legal issue analysis, finding the law, reading the law, and updating the law. This book, now in its second edition, has been both criticized and praised.[10] Whether brought about by the Wrens' insistence on what they call process, by a resurgence of interest in teaching legal research in a more effective fashion, or by recognition of the complexities CALR systems bring, a review of the literature and actual teaching practices of the past few years indicates that legal research teachers are beginning to recognize the need to put legal research into a better and more coherent conceptual framework.[11]

"These are turbulent days for the teaching of legal research."[12] The coming of age of computer-assisted legal retrieval systems and the recognition of the need for a conceptual framework mean that legal research teachers must reevaluate their courses and the manner in which research is taught. Legal research teachers nationwide are busy working with the administrative and pedagogical issues associated with formulating the conceptual framework that will help students learn to use manual and computerized tools more effectively.

In the real world, law librarians have been practicing the art of integrating resources—manual and computer—for some time. However, aside from the legal research texts, some

7. See "To the Reader" in M. Cohen, R. Berring and K. Olson, *Finding the Law* xxiii–xxiv (1989) (hereinafter Cohen, Berring & Olson).

8. Published in 1989 by Mead Data Central.

9. While I applaud the model she has conceived, her book's usefulness as a text is limited. For a required text in an educational setting, I am compelled to use company-neutral texts. Generalize her text, add sample WESTLAW searches, and a practical and useful student text would be the result.

10. Snyder, *supra* note 1, at 317, n.17; *see also* Berring & Vanden Heuvel, *supra* note 1.

11. Berring & Vanden Heuvel, *supra* note 1. Of course, one of the leaders in providing the conceptual framework for legal research is Professor Marjorie Rombauer, whose new edition of *Legal Problem Solving* is expected out in 1991. Her first edition in 1970 used an approach which she has refined and expanded in the last 20 years. Other research texts were slower to incorporate a guide to research process especially in the context of a writing or problem-solving book. For example, there was no guide to research strategy in M. Cohen, *How to Find the Law* (7th ed. 1976), but by 1989 a 17-page chapter had been added. Cohen, Berring & Olson, *supra* note 7, at 469–86 (1989). See generally the many articles in the first three issues of *Integrated Legal Research* (Summer, Fall 1988; Summer 1989).

12. Cohen, Berring & Olson, *supra* note 7, at xxiv.

conferences on teaching legal research in the 1980s, and practical articles appearing in state bar journals or law library literature, guidelines for the practitioner about how and when to efficiently integrate computer and manual resources have not been drawn together.

The purpose of this essay is to fill that gap. Though originally intended for an audience of attorneys,[13] the concepts and principles discussed are ones that should be integrated into law school legal research teaching as well. Integration of manual and computerized tools cannot occur until we first examine more closely the process of legal research and its goals and the nature of the literature of the law. Since the strategy and choice of tools for any particular research problem will be affected by a series of variables, these are considered next. Finally, a comprehensive review is presented isolating the kinds of problems that work best with computerized sources and the kinds of problems that are best done manually. The legal researcher is constantly faced with the need to select the best tool for a particular problem. As Professor Steven Barkan points out, "Legal research competency will only be achieved through broad-based, in-depth exposure to the constellation of resources."[14]

Nature of the Process of Legal Research

In his presentation on the "Research Habits of Lawyers" in 1968, Professor Morris Cohen surveyed the literature and concluded that very little information was available on the methodology of legal research, particularly the actual procedures used by lawyers in their need to solve legal problems.[15] Before discussing what he was able to find, Professor Cohen explored three factors that he believes have influenced and shaped the process of legal research:

(1) the purpose for which the lawyer does research;
(2) the nature of the materials with which and in which the research is done; and
(3) certain jurisprudential principles which affect the sources of authority and the weight they are to be given.[16]

A lawyer is a counselor and an advocate and, as such, normally performs research either to advise a client about a proposed course of conduct or to persuade a tribunal that an already determined course of action is correct.[17] Though some research projects are more objective than others, most legal research is done with a particular outcome in mind. Why or how does this fact affect the process of legal research? Many times a

13. This essay was initially developed as a presentation for a Washington Law School Foundation Continuing Education program given April 5, 1986, entitled "The Use of Computers in Legal Research." With slight modifications, its substance has been part of this same CLE program which has been given at least once a year since 1986.

14. Barkan, *supra* note 1.

15. Cohen, "Research Habits of Lawyers," 9 *Jurimetrics J.* 183 (1969) (hereinafter Cohen, "Research Habits"). Professor Cohen's remarks were made at a joint meeting of the ABA Special Committee on Electronic Data Retrieval and the ABA Standing Committee on Economics of Law Practice held in Philadelphia.

16. *Id.* at 184.

17. *Id.*

researcher will fail to find important, relevant authority if he or she has approached the problem with a narrow focus, or it may take longer to uncover the other side of the issue.

Secondly, the nature of the legal materials available has indelibly shaped the process of legal research. The multiplicity of resources available—secondary sources; primary materials such as codes, reporters, regulations, constitutional provisions; finding aids such as digests and Shepards' citators—has made the process of doing legal research more complex. In addition, law comes from federal, state, county, city, and international sources. As the numbers of cases and legislative enactments continue to explode, finding relevant material quickly and efficiently has become a more onerous task. The research tools have become more sophisticated and complex—whether we are talking about a specialized looseleaf service or computer-assisted legal retrieval systems. Since the law is constantly changing, legal publications have developed pocket parts, supplements, looseleaf pages and a variety of other devices to stay current. The process of legal research is clearly affected by the need to have access to all of the law and access to the most current laws or cases on a particular point as well.

As pointed out by Professor Cohen, the process of legal research has also been greatly affected by the widening scope of the non-legal sources to which lawyers refer. More and more lawyers need access to statistics, economic data, social science, medical or other scientific or governmental studies. All of these factors influence the kind of law books or computerized information systems that are produced for lawyers' use, and thus impact the process used.[18]

Finally, our principles of precedent and *stare decisis* affect the process of legal research. The interplay of these principles means the researcher cannot ignore the laws and cases of the past. A 1911 Washington State Supreme Court case may well continue to express the current legal principle to be applied in 1990. Old law books are not necessarily unused law books. In addition, the weight of authority to be given to any particular case or statute varies depending on the jurisdiction and specific level of court in which the case was heard.[19]

The Process of Legal Research

Having discussed several characteristics that impact the actual process of performing legal research, we need to look at this process itself. How do lawyers go about doing research? What procedures or models do they employ to help them find answers to legal questions quickly and efficiently?

The two studies referred to by Professor Cohen suggested that many lawyers do little research. Of those who do legal research, the state's digest and primary materials were used most frequently, with encyclopedias, *ALR*, and hornbooks and other treatises running close behind.[20] While these studies are interesting in themselves, they shed very

18. *Id.* at 185–87.
19. *Id.* at 187–88.
20. *Id.* at 190–93. Only one more recent study about the process of legal research could be located. Its emphasis, similar to the studies described by Professor Cohen, is on the law books owned and accessible to the North Dakota attorney. Reusch, "Patterns of Legal Research in North Dakota: A Survey," 61 *N.D. L. Rev.* 383 (1985).

little light on the actual thought processes used by attorneys when they research a legal problem. The best evidence of the process comes from an interesting source—legal research textbooks written for law students.[21]

No two of these texts list the exact same steps. The table shows the various methodologies suggested in the major legal research texts. There are as few as four steps or as many as nine. Though these models differ in emphasis, some similarities are readily apparent. Most recommend that facts be gathered and analyzed early on[22] and that issues to research be formulated. Some suggest an early review of secondary sources for background of an unknown subject. Selecting tools and searching for answers to the issues formulated then follows. Reading and evaluating the sources found, updating, reevaluating issues and refining the analysis seem to be a part of most of the processes reviewed.

However the various authorities characterize the procedures or steps involved in legal research, simply put, researchers analyze the facts, formulate a query or series of queries, select the tool(s) to use, consult the resources by using words or index terms, read and synthesize the authorities located, update the product of their searches and communicate the result.[23] How thoroughly each of these steps is handled will vary greatly in the researcher's access to the various tools, in the time available, and in the researcher's skill in manipulating the research tools themselves.

With many complex legal problems or problems which present new legal questions, the attorney or researcher is likely to repeat a variety of these steps over and over again. Whether used once or repeated, the researcher continues these steps until clearly relevant material is located, there is no time left to continue researching (or it is no longer cost effective to continue), or little or no useful information is found.

The Goal and Nature of Legal Research

What, then, is the goal of legal research? We must look back to the purposes for which legal research is done in the first place.[24] An attorney is trying to gather enough information to advise a client about a particular course of action or is performing research to justify or support a position already taken by a client. Most often, the researcher will be delighted to find primary authority—a case, statute, regulation or constitutional provision—which clearly gives an authoritative answer to our query. Unfortunately, clear, authoritative answers are not always found and interpretations of the primary authority or analogous situations must be located in order to determine what rule to apply in a specific situation.

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21. *See, e.g.,* M. Jacobstein and R. Mersky, *Fundamentals of Legal Research* 536–51 (1987 ed.) (hereinafter Jacobstein & Mersky); Cohen, Berring & Olson, *supra* note 7, at 469–86 (1989); Rombauer, *supra* note 6, at 134–45 and chapters 6–8 (1983); M. Price, H. Bitner, S. Bysiewicz, *Effective Legal Research* 438–58 (4th ed. 1979); C. Kunz, *The Process of Legal Research* 6–15 (2d ed. 1989); C. Wren & J. Wren, *The Legal Research Manual* 29–130 (2d ed. 1986); L. Teply, *Legal Research and Citation* 33–38 (3rd ed. 1989); Carrick, *supra* note 1, at 21–27, 125–34 (1989).

22. See Professor Dick Danner's call for better fact analysis in legal research courses. Danner, "Approaching Legal Research," 1 *Integrated Legal Research* 2–3 (no. 1, Sum. 1988).

23. Sprowl, "Legal Research and the Computer: Where the Two Paths Cross," 15 *Clearinghouse Rev.* 150–51 (1981) (hereinafter Sprowl).

24. *See supra* text accompanying notes 16 and 17.

Research Process

Comparison of Major Legal Research Texts

A. Rombauer	B. Carrick	C. Teply	D. Wren & Wren
1. Preliminary analysis	1. Initial analysis	1. Preliminary analysis	1. Fact & issue gathering & analysis
2. Search for statutes	2. Identify pertinent facts and issues	2. Plan research, choose logical starting point	2. Finding the law
3. Search for mandatory precedent	3. Decide what tools to use	3. Develop research, reevaluate issues, update law	3. Reading the law
4. Search for persuasive	4. Double-check results	4. Refine research & final updating	4. Updating the law
5. Refinements of your analysis; updating the law			

E. Kunz	F. Cohen, Berring & Olson	G. Jacobstein & Mersky	H. Price, Bitner & Bysiewicz
1. Factual analysis	1. Analyze facts & frame issues	1. Identify relevant facts	1. Analysis of problem
2. Research vocabulary	2. Overview of subject	2. Frame legal issues	2. Preliminary review of subject matter
3. Background information	3. Search for legal authority	3. Identify relevant sources of law	3. Search for relevant statutes and admin. regs.
4. Formulate & order issues	4. Read & evaluate primary sources	4. Research issues	4. Search for cases
5. Search for authority	5. Update the law	5. Communicate solution of problem	5. Search of secondary literature
6. Reevaluate issues			6. Search of looseleaf services
			7. Misc.
			8. Complete search (update)
			9. Appraise authorities found

A. M. Rombauer, *Legal Problem Solving* 134–36 (4th ed. 1983)
B. K. Carrick, *LEXIS: A Legal Research Manual* 21–27 (1989)
C. L. Teply, *Legal Research and Citation* 33 (3rd ed. 1989)
D. C. Wren & J. Wren, *The Legal Research Manual* 29, 39 (2d. ed. 1986)
E. C. Kunz, *The Process of Legal Research* 7–12 (2d ed. 1989)
F. M. Cohen, R. Berring & K. Olson, *Finding the Law* 469 (1989)
G. M. Jacobstein & R. Mersky, *Fundamentals of Legal Research* 536 (1987 ed.)
H. M. Price, H. Bitner & S. Bysiewicz, *Effective Legal Research* 447–48 (4th ed. 1979)

The goal of legal research, then, is to find an authoritative answer to a client's problem by an efficient use of the resources available and in a cost effective manner.

What characterizes the legal research tools we use? And how do these characteristics affect the research we perform and our intelligent selection of the best research tools?

Most are kept up-to-date and all legal research tools—computerized and manual—contain numbers and letters arranged to form words, phrases, and citations. Though manual and computerized tools have these two characteristics in common, the manner of access we have to them is quite different. In essence, access to printed (manual) sources is through hierarchically arranged indexes and tables of contents while access to computerized research tools, LEXIS and WESTLAW, is through every single word in the case or document (full-text access). Actual access to the full-text documents that have been loaded into computer databases is provided not by the mere fact of being in machine-readable form but by the concordances created[25] and the design of software used to search and retrieve the "words" in these databases. The "index" to LEXIS or WESTLAW is created first by the search software and its broad or limited capabilities and second, to some limited extent, by the user.

The most common kind of indexing in printed legal research tools is subject indexing.[26] Because most researchers need access to legal literature by subject, and because most research problems deal with subjects based upon more than one idea, indexes in legal literature tend to be stacked or precoordinated.[27] For example, indexing in the West digest system is deep—often five to six subdivisions from the initial entry.[28]

The advantages of the access to printed legal research tools are familiar to attorneys and librarians alike:

1. Once a relevant general or main index term is selected in a treatise, digest, or statute, much irrelevant material is automatically eliminated.
2. Human judgment—someone familiar with legal concepts and terms—is interposed between a researcher and the raw material of the case, statute or regulation. Concepts are generally well-indexed.

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25. See Berring, "Full-Text Databases and Legal Research: Backing into the Future," 1 *High Tech. L.J.* 27, 41 (note 44) (1986) (hereinafter Berring, "Full-Text").

26. Other kinds of indexing in printed tools also exist. For example, texts and treatises often have citation indexes (tables of cases, statutes or regulations) in addition to subject access. Access to legal periodicals is also available through author indexes and citation indexes (by cases and statutes) as well as subject. Statutes are often accessible by indexes of session law citation, popular name, and subject. Interesting that case law has never been indexed in the traditional print form by author of the opinion, attorney who argued the case or represented the parties, docket number, by what court the case was appealed from or any other of a number of possible access points. Access to case law has been traditionally by subject, by jurisdiction, and by statute/regulation citation tables. *See* Sprowl, *supra* note 23, at 153.

27. For an excellent discussion of indexing theory as applied to legal publications, see Dabney, "The Curse of Thames: An Analysis of Full-Text Legal Document Retrieval," 78 *Law Libr. J.* 1, 9–14 (1986) (hereinafter Dabney).

28. Berring, "Full-Text," *supra* note 25, at 34–35.

The disadvantages of printed materials are also very well known:

1. Error by the indexer could result in a lost or misplaced case, statute, or idea.[29]
2. Facts are usually poorly indexed.[30]
3. Deep index stacking or layering can cause retrieval problems. Similarly, simple indexing under only one or two relevant terms may inhibit access.[31]
4. Access to printed sources is very poor if the researcher has only partial or wrong information[32] or knows information which traditionally is not indexed.[33]
5. Printing and publishing in a cost-effective manner is very time-consuming and normally results in delays.

On the other hand, the advantages of full-text databases and free-text searching turn many of the disadvantages of print sources full circle:

1. Ideally, full-text databases with powerful search software give the researcher access to every work in the database. Thus, facts are easily retrievable.
2. The system is flexible enough to permit a search for any combination of words, phrases, and numbers. The researcher is not limited by a rigid thesaurus or an indexer's terminology.
3. Access with partial, wrong, or non-traditional information is usually quite good.
4. CALR systems can be potentially more current than print sources.

Though these are powerful advantages, the following disadvantages of CALR systems, based on their full-text arrangement and searchability, are very real[34] indeed:

1. Noise or stop words on CALR systems are not usually searchable.[35] So you do not *really* have access to every word.
2. Searches that include very common words (such as court, federal, jury, defendant, supreme) normally retrieve so many documents that the searches are not very helpful.
3. Because CALR systems are literal and search only the words requested by the

29. Woxlund, "My Favorite Headnotes," 6 *Legal Reference Services Q.*, 119, 125 (no. 1/2, 1986); *see also*, Berring, "Full-Text," *supra* note 25, at 34, 36–37; F. Shapiro, *LEXIS: The Complete User's Guide* 7 (1989) (hereinafter Shapiro).

30. The legal materials published by Lawyer's Cooperative Publishing Company come closer than most in trying to include fact indexing. See, for example, entries in their *Index to Annotations* under balloon, ice cream, sleet, bandstand, pigs, and wall. *See also*, Shapiro, *supra* note 29, at 9.

31. Dabney, *supra* note 27, at 12–14; Berring, "Full-Text," *supra* note 25, at 34–35.

32. For example, if you know the name of one party to a case, but not the jurisdiction or approximate year of the case, printed legal materials may not be of much help.

33. For example, printed legal materials cannot easily permit you to locate all of Judge Fletcher's 9th Circuit opinions on Indian law. *See also* Shapiro, *supra* note 29, at 9–10.

34. *E.g.*, Berring, "Full-Text," *supra* note 25; Dabney, *supra* note 27; Childress, "Warning Label for LEXIS: The Hazards of Computer-Assisted Research to the Legal Profession," 13 *Lincoln L. Rev.* 91 (1982); Rombauer, *supra* note 6, at 277–78, 286–89.

35. *WESTLAW Reference Manual* 405 (3rd ed. 1989); *Reference Manual for LEXIS/NEXIS Services* App. E-1 (1988).

researcher, relevant documents can be missed where many synonyms have been used in different documents to express the same fact or idea.[36]

4. Ambiguous words cause irrelevant retrievals.[37]
5. Complex legal concepts and words in a particular context may be difficult to retrieve.[38]
6. Words that have several spellings (e.g., M'Naughten Rule) or abbreviations (N.L.R.B.) and words that are misspelled because of typographical errors in the databases will also cause irrelevant retrievals or miss relevant cases if all variations are not used.[39]

Though the nature of the legal research tools we have to use tells us a great deal about when to use printed documents and when to use computerized research, there are several other variables to consider.

Variables That Will Affect the Selection of Research Tools

The factors that will affect the researcher's choice of manual tools or computerized databases are:

Speed required
Physical location of research tools
Level of experience in use of research tools
Knowledge of contents
Researcher's general knowledge of the area of law
Currentness of answer required
Comprehensiveness of search
Relative cost.

Each of these variables will be discussed. However, keep in mind that how each factor affects your choice of tools depends on your own personal research expertise, as well as the interplay among the factors themselves.

Getting an answer quickly is always important. Though the computer systems will always perform the tasks you request quickly (if no system malfunction occurs), you may not get the result you require quickly. If you push the wrong key, forget a step, must revise your search because it retrieved 3000 cases or whatever, that fast search may be so

36. Consider a search using the word "child!" to locate cases regarding adoption. Any particular document in the computer system which uses the words minor, boy, girl, kid, infant, or baby instead will not be retrieved by the "child!" search. *See also* Jensen, "To Search or Not To Search: The Decision to Go Online or Use Manual Sources," 2 *Integrated Legal Research* 4 (no. 1 1989) (hereinafter Jensen); Rombauer, *supra* note 6, at 264–65; Jacobstein & Mersky, *supra* note 21, at 432.

37. A search for the cases which deal with the drug, DES, is also likely to retrieve cases in which the city of Des Moines is mentioned. Jacobstein & Mersky, *supra* note 21, at 433; *But see* Berring, "Full-Text, *supra* note 25, at 47 n.65. The author contradicts this example and suggests that the term "diethylstilbestrol" is a better search. However, many researchers would be stumped immediately if they had to spell the drug's full name properly!

38. In discussing whether a statute or ordinance is overbroad when measured against the constitution, the search might be "overbroad" or "over-breadth." However, if the Court never uses either of these words, identifying a computer search that will work is almost impossible. *See, e.g.*, Jacobstein & Mersky, *supra* note 21, at 433.

39. Judgment is one of the latter words which should always be searched in CALR systems under both of its common spellings: judgment or judgement.

prolonged that faster results could have been obtained using manual tools. On the other hand, if you must research a complex issue in just a few hours, computerized tools may be needed to do the job at all in the given time period.

The physical location of the research tools you need will also affect your choice of tool. If you have a personal computer with modem in your office and all other legal materials (i.e., manual research tools) are in a library two floors away or down the hall, you are likely to use the closest source. The looseleaf set on labor in your office is easy and handy to use—as long as you are in your office.

Inexperience with any particular set of books or CALR system will certainly affect the selection of a tool. BNA's *Labor Relations Reporter* is a forbidding research tool to the non-labor researcher. The novice will spend a lot more time to understand how it works and may, therefore, choose to try to find the answer using a less complicated resource. On the other hand, the researcher who uses this looseleaf service often is much more likely to use the set efficiently in solving a client's problem. Thus, all other things being equal, repeated use of familiar manual or computerized tools is the norm and will limit the range of choices the researcher will make.

Another important variable is the researcher's knowledge of the contents and coverage of the selected research tool.[40] For example, you cannot locate the pertinent regulation in the *Washington Administrative Code* when the *WAC* has not been loaded on WESTLAW or LEXIS. One cannot Shepardize a state statute or search for Oklahoma cases prior to 1945 online. The content of the CALR databases and libraries is not necessarily the same as the content in the printed sources of the same tool. Similarly, familiarity with the contents of printed sources is equally important. For example, U.S. District Court opinions since 1932 cannot be located in the *Federal Reporter* and CCH's *Federal Banking Law Reporter* does not include the FDIC Enforcement Decisions.

Each researcher must analyze the depth of his or her own knowledge in the area to be researched. Little knowledge of a complex area such as antitrust will make first use of computerized tools very difficult. The legal jargon in the antitrust field is highly specialized and a novice will have a difficult time framing appropriate search queries. On the other hand, a veteran labor lawyer may well go directly to the specialized labor files online to research her problem.

Is the answer to your legal research problem one likely to be covered only in the most recent case law? Computerized tools may be the only way to find the most recent cases in fast-developing areas of law. Thus, the first cases dealing with the right of a child with the AIDS virus to attend public school may be hard to locate in printed sources. Similarly, to get the text of a U.S. Supreme Court decision on the day it is decided—if you don't live in Washington, D.C.—you must use a CALR system. Conversely, CALR systems are likely to be of scant help if you need to know the statutory provision in effect in 1950 in Indiana regarding the validity of common law marriages.

Must your search locate every case or article on a certain point of law? Or do you just want to locate the landmark cases dealing with the right to a trial by jury? Comprehensive searches can sometimes be handled only by using a CALR system,

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40. Jensen, "Full Text Databases: When to Use Them and When Not to Use Them," 27 *Law Off. Econ. & Mgmt.* 77, 78-79 (1986).

especially if the query is not complicated and involves the appearance of a specific word or phrase in the database. On the other hand, if the search query is complex, comprehensiveness may not be the result. In my experience, locating the landmark cases via computer can be a frustrating experience. Several books about the U.S. Supreme Court and the U.S. Constitution provide faster and more accurate access to these important cases.

Actual or perceived cost of a research tool or the use of that tool will also affect the ultimate choice between a manual and computerized resource. Most lawyers who do research are unaware of the cost of most law books, but they do think in terms of the time they will take to do the research itself. The annual cost of a looseleaf service is not usually divided among only those clients whose lawyers actually use the set. It is charged to overhead—the library—and rarely billed out directly to the client. Because of the billing practices of CALR systems, the "cost" of doing research on computers is much more visible to the user. Normally, use of CALR systems is billed directly to the client. Though cost is an important variable to consider, ultimately most researchers are simply using their best (but often uninformed) guess about the relative cost of the research tool they select and the relative cost of the time they devote to research.[41] In addition, the high start-up costs of CALR systems as well as the high price tags on sophisticated looseleaf or current awareness services reduce choice when the service (electronic or print form) is not even available to the researcher.

All eight of the variables discussed above will impact the decision-making process in your choice of a research tool or tools. They may well dictate your selection of a particular tool. Ultimately, however, the nature of the legal question, problem, or issue you must research should dictate your selection of a particular manual or computerized resource. Your selection of a research tool must be informed by an understanding of the kinds of questions which lend themselves to manual or to computerized tools. And we can think in terms of guidelines when we understand how printed and computerized tools are constructed and the structure that makes them accessible to us.

There are no firm rules in this developing area. Generalizing is always dangerous, at best. However, guidelines can be helpful in providing some assistance to legal researchers who struggle daily with the need to find information in the most efficient possible way. Each of these guidelines can be disproved; but my experience and the experiences of others suggest these rules-of-thumb are valid more often than not. As we gain more experience with computerized systems and these systems change and grow, the list of guidelines must also grow and develop. Only when we have sufficient experience with all kinds of legal research tools can we integrate the use of these various systems to be productive researchers.

41. Law librarians know more than most legal researchers about cost of CALR systems. *See, e.g.*, Loevinger, "Tips from Hogan and Hartson's Law Librarian on Economical Use of Electronic Research Resources," *Bull. L. Sci. & Tech.* 4–6 (No. 71 July/Aug. 1989); "New Prices for LEXIS and WESTLAW," 8 *Atl. L. Lib. A. Newsl.* 6–10 (No. 4 June 1989).

Manual Research Tools Are Better When . . .

. . . too many synonyms are required to retrieve all relevant documents.
. . . words are ambiguous.
. . . complex concepts and legal theories need to be explored.
. . . searches can only be expressed in common words or with stop words.
. . . the question is a procedural one.
. . . mandatory authority on point cannot be located and analogous situations must be considered.
. . . words have several spelling or form variations.
. . . statutory-type materials must be consulted by subject.
. . . you find nothing or too much (information overload).

Many words can be used to refer to the same thing. Professors Jacobstein and Mersky list the possibilities when a court discusses a ten-year-old boy:

boy	child	youth	infant
minor	juvenile	ten-year-old	young man

The court could also refer to him by using words showing his relationsip to something else, including his connection to the case itself:

son	brother	ward	student
pupil	victim	witness	plaintiff
defendant	appellant	petitioner	patient

and many others too numerous to list.[42]

Computer searches which do not contain all possible synonyms are most likely to achieve incomplete results. A surprising number of death penalty cases are missed by a computer search for "death penalty" or "capital punishment." Many judges never use either of these phrases but instead say that the defendant was sentenced to die. If your search can only be formulated with the use of a word with many synonyms, selection of a manual tool for the problem may make your results more relevant and helpful. Or you must be careful to include all possible synonyms.

The opposite problem results from the use of ambiguous words—words that could have any one of several meanings depending upon context. The word release can be a noun which refers to the discharge of an obligation or responsibility, but it is also a verb which means to relinquish or to give up. A full-text search in a CALR system for the word "releas!" will find cases in which a prisoner was released from the city jail, as well as cases in which the plaintiff had signed the release form provided by the insurance carrier. Aids is a verb as well as a noun, and a simple search for the word "aids" in a computer database to locate recent cases involving the AIDS virus will retrieve many irrelevant documents.[43] A knowledgeable searcher must anticipate the problem created

42. Jacobstein & Mersky, *supra* note 21, at 432.

43. Additional irrelevant documents are likely to be picked up when searching "aids" on LEXIS since the LEXIS software automatically retrieves the plural and singular forms of a word when the plural word is searched. So documents discussing the fireman who came to the aid of the little old lady will also be retrieved on LEXIS. On WESTLAW, on the other hand, the search for the word "aids" will only retrieve that word and not the singular form, "aid."

by ambiguous words and modify the search to look for a word or phrase likely to put the search term in the proper context for more relevant hits.[44] Often this context is hard to provide, and the researcher will find manual research tools more reliable.

Doing computer searches for complex legal concepts and theories can be very difficult. To use the computer, the researcher must be able to express these concepts in words and phrases. And judges often do not use exactly the same words to express the same idea.[45] A judge can talk about a statute being overbroad without ever using the word overbroad or overbreadth. In addition, these expressions of concepts often use only common words and lead to very poor computer retrieval results.[46] Here, the judgment of an indexer may be of great help to you and the manual tools may well provide a more relevant response.

Searches that can only be expressed in common words can be very tricky on the computer.[47] Consider this question:

> If person waives his or her right to a trial by jury in one trial, can a jury trial still be demanded in a subsequent new trial of the same matter?[48]

Thousands of irrelevant cases are bound to be retrieved on the computer with any combination of these words in your search. They are simply too commonly found in legal databases. In a related situation, stop or noise words are those that occur so frequently in the databases that the CALR systems have been programmed not to search for them.[49] For example, a computer search for "as is" clauses in sales contracts will be difficult since both words are invisible to the computer.[50] Unless a very unique word or phrase can be combined with these common words, CALR systems are not a good source for this kind of research.

Procedural questions usually make poor computer searches unless they can be linked with an unusual search term or a specific court or a procedural rule. Almost all procedural questions rely on common words to express their meaning. The printed texts and treatises for rules and procedural questions are varied and many. The indexing is often quite good and, in my experience, they are usually more efficient tools.

When the legal researcher must try to identify an analogy to support her argument, computer searching is very difficult, if not impossible. Unless analogous situations can be identified with appropriate words and phrases, a computer search cannot be contrived.[51]

Searches that must rely on words with many spelling or form variations can be poor computer searches. The right-wrong test of criminal responsiblity is expressed by the

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44. Jacobstein & Mersky, *supra* note 21, at 433 for DES example.
45. Berring, "Full-Text," *supra* note 25, at 48.
46. Jacobstein & Mersky, *supra* note 21, at 433.
47. Jensen, *supra* note 36, at 5 (guideline 2); *see also* Rombauer, *supra* note 6, at 264.
48. Jacobstein & Mersky, *supra* note 21, at 433.
49. Rombauer, *supra* note 6, at 263.
50. Jensen, *supra* note 36, at 5.
51. For a discussion of the concern that CALR systems will force attorneys to forget how to reason by analogy, see Childress, "The Hazards of Computer-Assisted Research to the Legal Profession," 55 *Okla. B.J.* 1531, 1534 (1984); *See also* Berring, "Full-Text," *supra* note 25, at 54-56.

M'Naghten Rule. This rule has been spelled several different ways, among them, MacNaghten, McNaghten, M'Naghton, and M'Naughten. Or try to find cases which refer to the National Labor Relations Board as part of your search. The NLRB, the Board, the N.L.R.B., the N L R B, and the N. L. R. B. are just a few of the possibilities. Some abbreviations have been normalized by the database creators in order to minimize this problem, but the possibility of variant forms remains something a skilled researcher must consider. And if the word or phrase you must search has many variations, you may be better off not using a CALR system.

Statutory-type resources include the *United States Code*, state statutes, *Code of Federal Regulations* and other similarly arranged sets of books. These sets of law books are typically arranged by subject in a complex, hierarchical fashion rather than like their chronologically arranged case reporter brethren. Thus, the guidelines that apply in deciding between manual and computerized sources will be somewhat different. The legal researcher must take this difference in arrangement into account in the use of statutory-type printed and computerized products. Though the full text of many printed statutory materials has been added to the CALR systems, and this full text is searchable word-by-word, the arrangement of the words in the printed product has been carried forward by the computer. Most sections of statutes interrelate with other sections, but reviewing a section isolated from the rest may not disclose that relationship. The individual sections, read alone, are often deprived of their necessary context.[52] One enhancement that both WESTLAW and LEXIS had to develop for these databases was one that would permit easy browsing of adjacent statutory sections, so context could be seen by the researcher.

But even this enhancement has not solved the problems associated with actually searching for words in statutory sources online. In the first place, the documents contain a much smaller number of words to search. This means the broader connectors—and, with (larger than normal number)—usually produce more effective searches.[53] Secondly, "the texts of statutes use words with greater precision and with less redundancy than the prose of court opinions."[54] Therefore, the use of synonyms, or the use of different words to express the same concept, may be very important. Instead of broadening one's retrieval

52. For example, see Wash. Rev. Code 43.12F.065 (1987) which describes the duties of the director.

43.21F.065. Duties of director

In addition to the duties and functions assigned by RCW 43.21F.045 and 43.21F.060, the director shall:

(1) Manage, plan, direct, and administer the activities and staff of the office;

(2) Assign, reassign, and coordinate personnel of the office and prescribe their duties subject to chapter 41.06 RCW; and

(3) Establish advisory committees as may be necessary to carry out the purposes of this chapter. Members shall be reimbursed for travel expenses incurred in the performance of their duties in accordance with RCW 43.03.050 and 43.03.060.

What director? A researcher must review Wash. Rev. Code 43.21F.025(3) (1987) to discover that "Director" means the director of the state energy office.

A search on LEXIS in the WACODE file, duties w/30 director w/30 energy, retrieved no documents, while the search, energy w/20 director retrieved only the definitions section, Wash. Rev. Code 43.21F.025(3) (1987).

53. Shapiro, *supra* note 29, at 167; *WESTLAW: Reference Manual* 125 (3rd ed. 1989).

54. Carrick, *supra* note 1, at 64.

(which is likely in many-word documents such as cases) to an unmanageable number, use of synonyms is more likely to help locate the actual relevant statute by giving more possible words in the database for the computer to retrieve. Sometimes this technique will also retrieve too many irrelevant statutes. A search for the penalties for drunk driving using "drunk driv!" as your search will not locate that statute if throughout the code this concept is referred to as "driving under the influence of intoxicating liquor or a controlled substance."[55]

What this means is that until all of the printed tools' enhancements—indexes, annotations, history notes and the like—are put online, subject searching of statutory files online may be of very limited value. The more words added to the statutory databases for searching, the greater the possibility of retrieving the needed statute.[56] Furthermore, the words used in the statute may have been enhanced by an indexer or the editor of the case annotations. For example, "common law marriage" may appear in an index or case annotation even though it does not appear in the relevant statute.

And lastly, manual researching is always a good alternative if you suffer from information overload. If your computer-search results are never small enough to review, or your review of results leads you to broader searches which result in more relevant hits and lots if irrelevant ones, try manual sources. Pursuing a poor strategy online is a waste of time and money. Instead of helping us narrow our focus, computers can broaden what we retrieve to the point that we can't cope with the amount of material we have identified. Do not be reluctant to sign off and try something different. It is amazing—sometimes those frustrating online searches are easy manual research problems.

Computerized Research Tools Are Better When . . .

. . . a unique search term, or phrase, or quotation can be used.
. . . the fact situation is unique.
. . . the area of law is new and emerging.
. . . totally comprehensive searches are required.
. . . your searches involve the use of a segment or field.
. . . a strictly mechanical search can be done, such as Shepardizing, searching for a West key number, and citation tracking.
. . . the question can be narrowly drawn.
. . . the information you have is not accessible in manual tools, such as opinions indexed by writing judge or searchable by docket number or with only partial information.
. . . the needed information has not yet been published in print form.
. . . the needed information will never be published in printed form.

A unique search term or phrase offers the best possible kind of search for a CALR system. Has the phrase "Christian nation" ever been used in a U.S. Supreme Court opinion? Has the word "reify" ever appeared in a Supreme Court case? The phrase "Christian nation" has appeared in twelve WESTLAW and thirteen LEXIS U.S.

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55. *Id.*

56. Of course, increasing the size of the files and databases online also runs the risk of increasing the irrelevant retrieval rate.

Supreme Court documents.[57] The word "reify" does not appear in any U.S. Supreme Court cases but variant forms such as "reified" and "reification" do appear.

Finding exact quotations is one of the most powerful capabilities of computerized research systems. Whether one is searching in a case law or statutory-type database, the incredible power of the CALR systems is fully realized. For example, retrieving the case in which Justice Potter Stewart said, "I know it when I see it" is very easy online.[58] Even though subject access to statutory databases online is problematic, searching for quotations or specific language in a statute is a snap. How else could one discover how many places in the *USC* Congress required something to be filed "on or prior to December 30"?[59]

However, be somewhat careful in your reliance on unique words. A unique word in one database may not be unique in another. The *writ of coram nobis* is a relatively unique phrase in the U.S. Supreme Court database but is very common in the Mississippi cases database.[60]

Because the court opinions have been loaded in full text, CALR can be very useful when a unique fact situation needs to be located. Finding personal injury cases in which a mouse had been found in a Coca-Cola bottle is relatively straightforward.[61] As long as the search terms can be combined in a way to create a unique combination, the computer tools can perform this kind of search—results that usually cannot be located with manual tools (unless someone wrote an article or section in a treatise citing all of the mouse-in-the-Coke-bottle cases).

If an area of law is new and emerging, chances are good the CALR tools should be used for two different reasons. First, the database *should* be more current than printed tools. Secondly, if they are, new words and terms of art are more likely to be found more quickly than in manual resources. For example, a legal researcher is more likely to locate cases about drug testing in the workplace, comparable worth, or AIDS with a computer database until such cases become so common that they have found niches and descriptive terms in the index and topic classification in printed sources.

A striking example of the lag time between a new development and its appearance in printed sources is provided by the 1952 Patent Act. It created a new section 103, which

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57. Interestingly, in at least two of the cases retrieved, the phrase appears in the counsel segment, not the court's opinion itself. For opinions on whether any of these cases stand for the proposition that the United States *is* a Christian nation, see any of the many articles that discuss this issue. *E.g.*, "The 'Christian Nation' Controversy," *American Lawyer*, June 1989, at 70; *Washington Post*, Aug. 13, 1989, at A6, first section.

58. In the other five cases, Justice Stewart's language was quoted from Jacobellis v. Ohio, 378 U.S. 184, 197 (1964). The fact that this case is retrieved at all is particularly interesting when you realize that "it" and "when" are not searchable on LEXIS because they are noise words, and that "when" is a stop word on WESTLAW.

59. *See also* Shapiro, *supra* note 29, at 9.

60. *Writ of error coram nobis* is recognized by statute in Mississippi and provides a vehicle for the rehearing of criminal cases where constitutional errors have occurred. Miss. Code Ann. 99-35-145 (1973).

61. Two cases were found quickly with the WESTLAW search, mouse/15 (coke or coca-cola): Ritter v. Coca-Cola, 24 Wis. 2d 157, 128 N.W.2d 439 (1964) and Shoshone Coca-Cola Bottling Co. v. Dolinski, 82 Nev. 439, 420 P.2d 855 (1966). Undoubtedly others would have been located if all results had been reviewed.

stated that to be patented, the subject matter of the thing to be patented had to be non-obvious. Non-obvious, in the patent law context, took on a special, technical meaning. Even though the definition of non-obvious was often discussed by courts, the term non-obvious did not appear in the indexes or tables of contents of any printed patent books until 1966! Similarly, environmental law cases are not found collected in a separate West Digest topic called environment. The phrase environmental law was not in general use until the late 1960s when the National Environmental Policy Act was passed by Congress. West added protection of the environment to a preexisting topic (Health) sometime during the publication of the General Digest which eventually became the *Eighth Decennial Digest* (1966–1976). These two examples illustrate why computer legal research tools are usually better sources for new areas of law and emerging trends.

Totally comprehensive searches are not always required in legal research, but when they are, a computer research system may be the only way to ensure complete coverage. This general rule of thumb must be modified by several ifs—if the search is precise enough to retrieve every single relevant document; if the library or file which is being searched is complete; if there is no manual tool that collects all of the relevant documents. Doing a totally comprehensive subject search for particular kinds of cases using subject search terms is more difficult even on CALR systems, but a comprehensive CALR search for every case from the Washington State Court of Appeals assigned to Animals key number 1 can be done with reliance on the results.

Both WESTLAW and LEXIS have broken each document put into their systems into smaller parts. On WESTLAW, these are called fields; on LEXIS, segments. In addition, both systems permit separate searching of these smaller parts. For example, if a researcher wanted to locate the U.S. Supreme Court opinion in the Bakke case, a search in the name (LEXIS) segment or title (WESTLAW) field for Bakke would limit retrieval to only those cases in which the word Bakke appears in this small portion of the opinion. Since the word Bakke appears in the full text of many U.S. Supreme Court opinions, the segment/field search permits a faster retrieval of the desired case. Most often, if the information you have can be located in a segment or field online, your search will be efficient and worth doing on a computer.

Strictly mechanical-type searches are the most reliable searches which can be done on CALR systems. One can Shepardize a case from a printed Shepard's citator. But the process has been made so easy on WESTLAW and LEXIS that Shepardizing manually is not very time (i.e., cost) effective. In the first place, citations found in the various pamphlet and newsprint supplements are integrated in the online systems with the citations found in the bound volume(s). Thus, you need look at only one list of citations for each citation you Shepardize. No longer do you need to locate the first Shepard's volume your case is listed in just to find the parallel cite! Shepardizing online also has some features not available in the printed product—for example, the ability to display a list of citing references limited to headnote number of treatment (j for dissenting; f for followed; o for overruled, etc.); the ability to see immediately the full text of any citing case; the actual description of the treatment, not just the appearance of a symbol representing the type of treatment.

Other examples of easy mechanical-type searches are Insta-cite and Auto-cite; searching for cases assigned to a specific West key number and topic;[62] citation tracking where the searcher requires the CALR system to locate all documents containing a specific citation;[63] the FIND, LEXSEE and LEXSTAT commands by which specific documents can be retrieved with the citation and appropriate command. All these types of searches are easy to conduct—and often give better or faster results than using manual tools. Here, the only thing that may inhibit use of CALR systems for these types of searches are the variables discussed earlier. For example, if the Shephard's citator you need is near your office, while the CALR system is on another floor, you probably will not Shepardize online. Undoubtedly WESTLAW and LEXIS will continue to improve the number and quality of this kind of feature.

Questions narrowly drawn tend to be best suited for computer searches. Conversely, a general question about a foreign corporation doing business in a particular state may be all but impossible using current CALR systems. The more focused your question for a computer search, the more likely you are to get relevant, precise results. Unless you have unique words to use, general questions are not good for computer searches.

Computer searches are necessary if the type of information the researcher has cannot be accessed with manual tools. James Sprowl illustrates this nicely with a table in his 1981 article.[64] For example, searches for cases written by a specific judge on a particular topic, for a case when only the court and docket number are known, for cases in which a particular attorney argued, or for all the cases decided on a particular day by a specific court are all possible using legal computer databases.

Researchers often remember only pieces of information, but not the right pieces of information, to locate a case in manual tools. Locating a case when you know only the court and the subject matter of the case, for example, can be impossible with manual tools but may be easily accomplished with CALR systems. One of the real strengths of WESTLAW and LEXIS is the ability of the systems to retrieve documents with information that is often not searchable at all in printed sources.

Using WESTLAW and LEXIS is also a logical choice if the needed information is not yet available in printed form. With CALR systems, you can usually read a copy of a court's opinion days or weeks before it can be located in a printed source. U.S. Supreme Court cases are now loaded on both WESTLAW and LEXIS the same day they are handed down. The attorney in Washington state could read a copy of the *Webster*[65]

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62. The General Digest and its Decennials and the Federal Digest have become extremely cumbersome manual tools. Once a specific key number and topic is located, searches to find other cases assigned to the same key number are best handled online unless the state case law database does not extend back far enough in coverage.

63. A searcher can create a Shepard's equivalent for any item cited in documents online. For example, a search in the Washington State cases file for 478-168-070 would turn up all cases citing this section of the Washington Administrative Code.

64. Sprowl, *supra* note 23, at 153.

65. Webster v. Reproductive Health Services, ___ U.S. ___, 109 S. Ct. 3040 (1989).

opinion the same day as the Washington D.C. attorney who waited at the Court's Public Information Office for a printed copy.[66]

Though the load deadline for U.S. Supreme Court cases is the same day they are decided, other courts' opinions receive a lower priority on the computer systems as well as in the printed publications. Nevertheless, the computer databases are almost always more current than print sources for court opinions. But many of the databases on WESTLAW and LEXIS are created from a print product. Note also that sometimes the agreement between the CALR vendor and the print publisher requires that the online system file be less or no more current than the print product. Some files or libraries are embargoed for a specific time period by this requirement. Thus, check the currency of the database or library you wish to use to see if it really is more current than the printed product.[67] A not-very-well-advertised example of this is Shepard's Citations. Shepard's online *was never* and *is not now* more current than the current supplemental material published for the books.[68]

More and more, the computer retrieval systems must be used to locate needed information that will never be published in any printed form. Insta-cite and Auto-cite are case verification tools not available in printed form. They are very current, and therefore include information which would be nearly impossible to find otherwise. As mentioned above, Shepard's Preview is another example of a service which has no print equivalent.

In addition, a good many legal documents can be found only online. Best known for their availability on LEXIS and WESTLAW are the so-called unpublished decisions of the federal district courts and the federal courts of appeal. If the cases are in specialized areas of law, these are sometimes printed in looseleaf services, but an estimated 28,000 "unpublished" opinions per year are loaded in CALR systems and not found in *Federal Supplement*, *Federal Reporter 2d*, *Federal Rules Decisions*, *West's Bankruptcy Reporter*, or *West's Military Justice Reporter*. Similarly, the unpublished Comptroller General Decisions can be found on LEXIS and WESTLAW, but not in any full-text published form. They are digested in a government publication. Many of the state corporate filings on LEXIS have no published equivalent. Routinely in areas dealing with administrative law practice, the administrative actions—private letter rulings, news digests, circulars,

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66. Printed slip opinions are usually in short supply and copies are often exhausted before noon the day of decision. Additional copies are available from the court one to two days later and will be mailed to requestors, until the supply is exhausted. Normally, however, the opinion will be available through BNA's *United States Law Week* or the *CCH Supreme Court Bulletin* by then. The U.S. Supreme Court is exploring ways to directly disseminate its opinions electronically. To date, no such plan has been implemented.

67. Cases tend to be loaded online before they are printed. Looseleaf services, law reviews, and administrative decisions will probably be no more current than the printed products and are often *less* current. Matthew Bender, in the early 1980s, contracted to have many of their treatises loaded on LEXIS. However, when new supplemental material was published, it was not loaded into the database, with the result that those treatises online were never as current as the published work. Eventually, the Matthew Bender sets were removed from LEXIS (perhaps because they were not used?). The rule of thumb is to check both the beginning date of coverage and the date of the most recent information loaded in that file or database.

68. Shepard's Preview, announced by WESTLAW in the spring of 1989, fills the time gap between paper publication and Insta-cite, but is not available in a printed product at this time and does not have all of the standard Shepard's features (no references to headnotes, treatment, etc.).

orders, releases—are only selectively published in any print form. The CALR files are often more complete. When access to such documents is required, the CALR systems will normally be the research tool of choice.

Conclusion

Anyone who has the time and energy can learn how to use legal research tools. We are blessed in the legal profession with a wide variety of interrelating primary and secondary sources in print, microform, and electronic formats. If one wanted to be a tax attorney today and had no tax research tools, what would one buy or arrange to have access to: the CCH *Standard Federal Tax Reporter*, Prentice Hall's *Federal Taxes*, West's new six-disc tax CD-ROM library, WESTLAW or LEXIS? The list is obviously longer than this. Selection of the research tools needed for the practice of law today is no easy task. Just as these decisions cannot be appropriately made in a vacuum, neither can the selection of a specific tool for research be made without an understanding of the strengths and weaknesses of the resources available for consideration.

The educational process at which the legal researcher must work is neverending. As older, traditional resources are enhanced or stop publishing altogether, as new traditional works are published, and as technology develops new and amazing formats for adoption to legal materials, the lawyer, law librarian, law student, and law professor must continually update and revise her bag of tricks. I may know how to coax almost anything out of the U.S. Supreme Court databases, but I am like a child with the tax looseleaf services or the online tax databases. Fortunately for me, several very good research guides have been written for novices in the field of tax law. If I choose, I can benefit from the experience of other experts.[69]

But even though we cannot know all of the details needed to perform every kind of legal research, we can educate ourselves conceptually about the literature of the law—its primary and secondary materials.[70] In doing so, we must approach research learning as described in a recent article about legal research and law students:

> They need to know the principles of structure and design of the legal research systems. They need to know enough about the scheme of research to *evaluate the quality of the tools and the quality of the information they find in them.* As lawyers, they must be self-sufficient enough in research that they can at least evaluate their own work and the work of others (emphasis added).[71]

Specifically, legal researchers must know enough about how print sources have been created and how, when, and why they are used. This step is essential to the true integration of computerized and manual print tools. Even though tremendous freedom and power belong to the user when working with online and CD-ROM tools, the conceptual framework for most files and databases online relates to the print product on which they

69. Wonderful pathfinders or user's guides exist to help the uninitiated locate and use specialized legal materials. *E.g.*, L. Chanin, *Specialized Legal Research* (1987) (contains eleven chapters on different areas of law, including immigration, military law, and banking law); Jacobstein & Mersky, *supra* note 21, at 445–535 (federal tax research); Cohen & Berring, *supra* note 1, at 638–91 (international law).

70. Berring & Vanden Heuvel, *supra* note 1, at 443.

71. *Id.* at 443–44.

are based. It is relatively straightforward to teach someone the mechanics of WESTLAW and LEXIS searching, but the full power of CALR systems will not be unleashed unless the user is intimately familiar with the printed counterparts of the online (or CD-ROM) files.

This, then, explains the need for the kind of ideas presented in this essay. The actual structure of print and computerized tools must be examined to see how they can best be used to solve legal problems. Once the conceptual framework is in place, many more skilled researchers will add to our ever-growing body of knowledge about the strengths and weaknesses of computerized and printed legal research sources.[72] Only then will the effective integration of legal research tools (that is, selecting and using the best possible legal resource in a cost-effective manner) really happen.

72. An interesting and thorough discussion of computer-assisted legal research, written by a practicing attorney, also includes several case studies that compare research in CALR systems to manual research. H. Perritt, *How to Practice Law with Computers* 241–308 (1988).