

Context and Legal Research*

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Professor Bintliff explores the changing context of legal research results occasioned by the shift from the defined and hierarchical legal research world of digests and print resources to the almost unlimited information available electronically. Basic communication theory is used to understand how the changes affect our shared context.

¶1 The debate about whether print or electronic resources are better for legal research ended essentially because the consumers of the resources made a decision. Electronic resources are now used so overwhelmingly for legal research that their relative merit seems almost irrelevant.¹ Faculty, attorneys, and law students voted with their feet, and their feet led them to the computer terminal.

¶2 What has changed with the passing of the print legal research world? The adage “You can do it faster, cheaper, or better. Pick two” is a somewhat lighthearted way to refer to the reasons behind the sometimes serious compromises that usually must be made when adapting to a new technology.² Each choice—faster, cheaper,

* © Barbara Bintliff, 2007. This article is an edited version of remarks delivered at Legal Information and the Development of American Law: Further Thinking about the Thoughts of Bob Berring, a symposium held at Boalt Hall on the University of California, Berkeley campus, Oct. 21, 2006.

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1. LEGAL TECH. RESOURCE CTR., AM. BAR ASS'N, 2006 ABA LEGAL TECHNOLOGY SURVEY REPORT: ONLINE RESEARCH 15 (2006) (“For the first time, in the current survey, print was not selected as the dominant format for any of the sources given. . . . [M]ore respondents are using online resources, either free or fee-based,” than print.). Since this was the first time that online had outpaced print, the report emphasized that, because “[a]lmost all of our respondents (93%) conduct legal research online,” chances are that this report is not an anomaly but rather an accurate representation of the state of legal research. *Id.* at 13. See also Gary J. Bravy & K. Celeste Feather, *The Impact of Electronic Access on Basic Library Services: One Academic Law Library’s Experience*, 93 LAW LIBR. J. 261, 262, 2001 LAW LIBR. J. 11, ¶ 2; Lee F. Peoples, *The Death of the Digest and the Pitfalls of Electronic Research: What Is the Modern Legal Researcher to Do?* 97 LAW LIBR. J. 661, 2005 LAW LIBR. J. 41.
2. See, e.g., Harry Goldstein, *Who Killed the Virtual Case File?* IEEE SPECTRUM, Sept. 2005, at 24, 30, available at <http://www.spectrum.ieee.org/sep05/1455> (quoting a conversation between Sherry Higgins, then-IT Director, and Robert Mueller, then-FBI Director, regarding the development, attempted implementation, and failure of the FBI’s \$170 million “Trilogy” case management system, in which Higgins said, “[L]esson No. 1: faster, cheaper, better. Pick two, but you can’t have all three.”).

or better—represents a potential compromise, and one aspect of the consequences of a change in practice. These choices help describe what we are accepting by preferring electronic research.

¶3 Research results appear quickly on your computer screen, far outstripping the time it takes to locate the right books and work through topics and key numbers, annotations, indexes, and articles to find relevant authorities. We are so accustomed to speedy results from our electronic resources that response times of more than just a few seconds cause us to become impatient. Google even tells us, in fractions of seconds, how fast it returns a list of Web sites responding to a request.

¶4 Purely in terms of the speed of research, it seems there is little downside to the preference for electronic research. “Faster” may be the most compelling reason to change to electronic resources, and it requires the least compromise to effect the change. We have definitely chosen “faster” as one reason for the transition to electronic resources.

¶5 There is great debate in librarianship about the costs of access versus ownership, licensed electronic resources versus print resources.³ Much of the debate focuses on serials, which make up the bulk of most law collections and include cases, digests, statutes, and loose-leaf services. The question is whether the costs of electronic resources (subscribing to or purchasing them and providing the appropriate equipment for access) are lower than the one-time purchase costs for books, plus the expense of updating them and providing space for them on library shelves. Contemporary wisdom—and some extensive analyses—tells us that it is less expensive to buy a good computer, get an Internet connection, and subscribe to several databases than it is to purchase and store range after range of books.⁴ Law firms have embraced this philosophy, adopting electronic resources wholeheartedly and paring down or eliminating their print collections. “It’s all on the Internet and it’s all free” seems to be a compelling and persuasive rationale to many financial officers and other administrators, who question the need to have print resources at all. Even if there are concerns about the effects of the rapid increase in electronic formats and the consequent loss of print collections, it is difficult to argue with the bottom line.⁵ “Cheaper” is definitely a reason many have given for the switch to electronic resources.

¶6 But what is “better” in this new world? By what criteria do we determine whether, or which, electronic resources are superior to print for legal research? Is

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3. See, e.g., Michelle M. Wu, *Why Print and Electronic Resources Are Essential to the Academic Law Library*, 97 LAW LIBR. J. 233, 2005 LAW LIBR. J. 14 (containing an excellent discussion of the pros and cons of the two formats). See generally Paul E. Howard & Renee Y. Rastorfer, *Do We Still Need Books? A Selected Annotated Bibliography*, 97 LAW LIBR. J. 257, 2005 LAW LIBR. J. 15 (containing an extensive bibliography on the topic).
 4. Carol Hansen Montgomery & Donald W. King, *Comparing Library and User Related Costs of Print and Electronic Journal Collections: A First Step Towards a Comprehensive Analysis*, D-LIB MAG., Oct. 2002, <http://www.dlib.org/dlib/october02/montgomery/10montgomery.html>.
 5. See, e.g., Ann Bartow, *Libraries in a Digital and Aggressively Copyrighted World: Retaining Patron Access Through Changing Technologies*, 62 OHIO ST. L.J. 821 (2001); Robert Lawson & Patricia Lawson, *Libraries in a Bind: Ownership Versus Access*, 36 J. CONSUMER AFF. 295 (2002).

“better” the compromise that we make in the movement to electronic research? Or is it the criterion that we exclude from our reasoning in explaining our preferences for electronic resources in the legal research world?

¶7 Law is neither practiced nor taught in a vacuum. It is, instead, a profession that exists to avoid and resolve disputes and problems in many different ways, between and among individuals, governments, or organizations, or any combination of parties. Practitioners work with this in mind, and law is taught with this in mind. Both law teaching and practice are people-centered professions.

¶8 Like other people-centered disciplines, the basis of all legal processes is communication. Contracts, statutes, memoranda, cases, treatises, periodical articles—legal documents of all kinds—are themselves meaningless unless they are communicated to someone else. Moreover, communication is ineffective unless the speaker and the listener, the writer and the reader, are communicating about the same thing. The parties can hardly avoid mistakes and equitable solutions can rarely be reached unless legal communication is based on a shared context. Sometimes the parties themselves agree on the context at the outset; an example is the “fine print” to which a consumer must agree as part of a credit card agreement (although, admittedly, there is little latitude for the consumer in this example). Other times context is negotiated, as in the section specifying choice of law that is required in all contracts signed by our institutions. A legal dispute or problem cannot be addressed until there is a context for its discussion. The basis of effective communication, and especially legal communication, then, is a shared context.

¶9 Thus, research techniques that promote communication are better than those that hinder it. Are legal research, and the writing based upon it, improved by electronic research tools or hindered by them?

¶10 Bob Berring writes of how the grand hierarchical scheme imposed on American law by the digest system developed by the West Publishing Company structured the research and analysis processes of generations of lawyers and actually shaped the substantive law over time.⁶ West’s comprehensive research structure also provided a shared context for legal research and analysis and, by extension, for the law itself. Attorneys, professors, and law students all used the same tools as springboards for research, reading page after page of annotations in the digests to find authorities—cases and statutes—with which to craft their arguments. Digests tied into other West tools, including the legal encyclopedia *Corpus Juris Secundum*, *Words and Phrases*, and treatises. West’s main competitor, Lawyers Co-op, also provided a coherent organization among its products, and hence a context for research. The legal research process was carried out in a context that allowed for effective communication as arguments were based on the same types of authorities, generally found in the same way.

¶11 Does the shift from print to electronic resources affect that shared context?

¶12 We know that fewer and fewer legal researchers are consulting the digests, either in print or online, for their research needs.⁷ Instead, they turn first to full-

6. See Robert C. Berring, *Legal Research and Legal Concepts: Where Form Molds Substance*, 75 CAL. L. REV. 15, 22 (1987).

7. See generally Peoples, *supra* note 1.

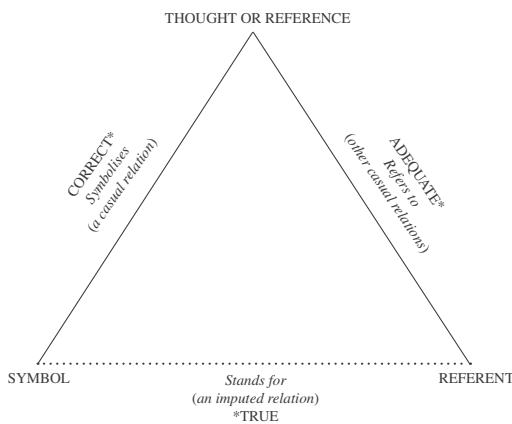
text databases or Google, eschewing the hierarchical organization of digests for the free-for-all of the electronic realm. Authorities, or at least the materials upon which the attorney or law student relies, have moved far beyond the cases and statutes identifiable in the digests. Certainly this has changed the context in which legal research is conducted and, therefore, changed the nature and content of legal communications. Has the change been for the better?

The Importance of Context

¶13 Think of the many times we have heard or said something to the effect of, “You’ve taken my statement out of context and it no longer means what I said.” Or, more simply, “We’re not talking about the same thing.” This complaint goes to the heart of communications: a mutual understanding of intended meaning. If we lack a shared context, we lack the ability to communicate. Among other definitions, *Black’s Law Dictionary* defines *context* in terms of “setting or environment.”⁸ This is not a “legal” definition in the sense of coming from a case or statute, but rather it stems from general usage. A definition from the field of linguistics⁹ brings more specificity, referring to context as “a frame . . . that surrounds the event being examined and provides resources for its appropriate interpretation. . . .”¹⁰

¶14 A seminal work on context in communication from the field of linguistics is Ogden and Richards’s *The Meaning of Meaning*,¹¹ which examines the underpinnings of communications between individuals and within groups. Ogden and Richards’s focus is on the ways in which people use language to communicate and the prevalence of misunderstanding when contexts for the use of a particular word differ. Using the vehicle of a “semantic triangle,”¹² the authors illustrate how

the meaning of a specific word is determined by the background and experience of those who use it and those who hear (or read) it. Ogden and Richards assert that a word itself has no meaning; it is only a “symbol” of something and not a “thing” itself. And, because each person can have a different perception of the meaning of a given word, it is the context, or the “reference,” in which the word is used that provides a basis for communication.



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8. BLACK’S LAW DICTIONARY 338 (8th ed. 2004) defines *context* as “[s]etting or environment <in the context of foreign relations>.”
 9. Linguistics, the study of language, provides fertile grounds for understanding legal usage of words because law is such a text-based field.
 10. ALESSADRANDO DURANTI & CHARLES GOODWIN, *RETHINKING CONTEXT: LANGUAGE AS AN INTERACTIVE PHENOMENON* 3 (1992).
 11. C.K. OGDEN & I.A. RICHARDS, *THE MEANING OF MEANING: A STUDY OF THE INFLUENCE OF LANGUAGE UPON THOUGHT AND OF THE SCIENCE OF SYMBOLISM* (1989).
 12. *See id.* at 11 *illus.*

¶15 The symbol (the word used) stands for something when a speaker uses it. What it stands for, the “thought,” is explained by its causal use, that is, how the speaker intends to use the word. The causal use is the speaker’s intended context. When the word is heard or read by another person—the listener—it takes on a meaning; it becomes the “referent,” or a tangible “thing.” And the listener perceives the now-tangible thing to have a specific meaning.

¶16 If the listener’s experiences and environment are similar to the speaker’s, then hearing the word can cause the listener to give the word a meaning in the context intended by the speaker; the word takes on its “true” meaning in both parties’ minds. But the experiences and environment may be affected by the social or psychological relationship between the two (e.g., employer and employee or police officer and distraught victim), by the circumstances in which they find themselves (e.g., a car wreck or a sporting event), by body language, or by a host of other factors. If the backgrounds and experiences of the speaker and listener are too different, then there is no shared context and consequently no communication without extensive explanations or even negotiation to verify meaning. An obvious example of the lack of a common background and experience affecting communication is when the speaker and the listener are speaking different languages. Only with a translation, which provides meaning for the spoken words by putting them into an experiential context for the listener, can the listener comprehend the message. Even then, due to the differences in the background and experience of the parties, mistakes are common.

¶17 Ogden and Richards posit that, absent context, there is no real relationship between the bare word itself and what the listener hears. Without context, the parties do not have a ground for common understanding. In a shared context, both speaker and listener can relate to the circumstances and give common meaning to the word.¹³ If they are not within the same context, if they are not speaking about the same thing, they are not communicating.

¶18 We see this in law all the time. Our education and professional backgrounds, our socialization into the profession, and often our knowledge of a particular situation, allow us to discuss and analyze legal issues without having to define every word and concept. We use words of art (“*res ipsa loquitur*”), jargon (“the Supremes”), and abbreviations (“j.n.o.v.”), and other lawyers understand us quite well. Even librarians and legal writing instructors can communicate with each other, within our shared context. Legal research, and the ensuing analysis and writing, is aimed at providing and enhancing our context.

¶19 Individual parties can work together to explain or negotiate a common context, but what about groups or professions? How do they communicate effectively when there is no one-to-one communication? What is it that allows us to read a law review article and understand its message, or to negotiate a contract, or to teach

13. *Id.* at 11 & ch. 1 generally.

a class? In particular, what allows us to read and *understand* what another legal professional has written if that person is not there to help us decipher his “causal use” of words?

¶20 Law depends on our being able to communicate in writing and orally to groups and even the entire profession as well as to individuals. In legal communications, we are generally confident that our listeners will understand exactly what we mean, no matter how specialized our language, because of our shared education, knowledge, and experience. Our profession gives us a common context indispensable for communication; it is not something about which we think often because it is so basic to what we do. This is the part of Ogden and Richards’s semantic triangle, the part at the very top angle, that exists between the causal use of the word and its interpretation by the listener or reader. “[T]he peculiarity of interpretation being that when a context has affected us in the past the recurrence of merely a part of the context will cause us to react in the way in which we reacted before.”¹⁴

¶21 As we move from individual communication to that within larger communities, we see how the semantic triangle theory works within groups ranging from the college classroom, to the city council, to a learned profession, or to the nation at large. Communication becomes more challenging in groups because the experiences and environments that help shape context are different for each member, and there is much less opportunity for individual negotiation of meaning. Information is disseminated broadly, via lecture or writing, and not conversation.

¶22 *The Structure of Scientific Revolutions*, by Thomas S. Kuhn,¹⁵ describes the manner in which scientific communication—and by extension, communication in almost all fields of study—is shared among the members of a particular discipline. This work is generally acknowledged as the classic study on the subject.

¶23 Kuhn describes how *paradigms* provide a framework for scientific study and communication. A paradigm includes “law, theory, application, and instrumentation [which together] provide models from which spring particular coherent traditions of scientific research.”¹⁶ That is, a paradigm is an overarching environment, or context, within which scientific research and communication are effected. “[L]ike an accepted judicial decision in the common law, [a paradigm] is an object for further articulation and specification under new or more stringent conditions.”¹⁷

¶24 Students in scientific fields learn the scope and boundaries of the paradigms defining their fields from their mentors who, themselves, were taught by their own mentors. The generations of students thus share the same paradigms within which their research is conducted and their conclusions are conveyed.

14. *Id.* at 53.

15. THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (3d. ed. 1996).

16. *Id.* at 10.

17. *Id.* at 23.

There usually is little disagreement among scientists over the fundamentals of the specific scientific field because of this shared background, and the results of various experiments have meaning because they are understood within the same context. The paradigms shared by a scientific field bring a sense of order and process to that field. “Men whose research is based on shared paradigms are committed to the same rules and standards for scientific practice.”¹⁸

¶25 The paradigm is indispensable to scientific inquiry because “[n]o natural history can be interpreted in the absence of at least some implicit body of intertwined theoretical and methodological belief.”¹⁹ The commonly understood paradigms, the shared context, give scientific researchers a basis on which to compare results and understand outcomes. There is no need to start with the history and development of the paradigm each time one writes. This is assumed knowledge, readily obtainable in textbooks in the field.²⁰ Without a paradigm, a shared context, scientists cannot communicate.

¶26 Kuhn views textbooks as authoritative pedagogical tools that strengthen and perpetuate “normal science.” Normal science—the accepted state of a particular discipline—is the result of “research firmly based upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice.”²¹ Textbooks, then, are the common denominator for scientific understanding. They contain and structure science’s most basic context. While critical of scientific textbooks because of their habit of making history look cumulative and linear,²² Kuhn recognizes that textbooks are essential to both scientific progress and the very image of science as being a discipline of discovery and invention.²³ Without textbooks, the paradigm cannot be communicated.

¶27 A paradigm is created by scientists in a discipline, based on their knowledge, experiments, and interpretation of the results.²⁴ Scientific observations and conclusions within a particular paradigm can be considered objective when they conform to the accepted paradigm, but the paradigm itself is a creation of the discipline. Because of the way it structures experiments, the paradigm is a self-replicating context. In effect, scientists make their own context and then experiment within it. Once established, a paradigm is resistant to change. It can be interpreted, expanded, parsed, and divided, but the paradigm itself—the rules and theories, the structuring context—is difficult to revise.

¶28 Paradigms change through a process Kuhn calls a “revolution,”²⁵ generally occasioned by a “crisis.” Crises occur when an anomaly is observed that seemingly

18. *Id.* at 11.

19. *Id.* at 16–17.

20. *Id.* at 10.

21. *Id.*

22. *Id.* at 19.

23. *Id.* at 113.

24. *Id.* at 10.

25. *Id.* at 6.

cannot be explained within the principles of the paradigm. After research and experimentation, several things can happen: the anomaly is resolved; the conclusion is reached that there is no way to resolve the puzzle given the limitations of the existing tools (not because the paradigm is wrong); or the anomaly emerges as a competing paradigm. If a competing paradigm is created, proponents of the old and new square off, much like political campaigners. The parties debate the merits of their paradigms, each using their own paradigm to support their arguments. Often the sides are unable to communicate directly with each other because all conversation takes place within the context of one or the other paradigm. The revolution occurs when one side convinces the majority of the field of the correctness of its paradigm. The new paradigm then replaces the old, and its acceptance is confirmed by inclusion in the field's textbooks.

¶29 Some revolutions are huge and widely known, such as that occasioned by Copernicus's conclusion that the earth orbits the sun (heliocentricity), which refuted centuries of scientific and religious teachings about the geocentricity of the universe. The eventual acceptance of this theory almost completely changed the existing European culture and religion as well as numerous scientific fields. Some revolutions are small, at least to the casual observer, like the isolation of oxygen as a gas, which went somewhat unnoticed outside the community of chemists, despite its allowing scientists to understand, and thereby control, how and why things burn. Regardless of the public recognition of the revolution, however, each results in a change of the prevailing paradigm of a field of study.

¶30 Kuhn's use of the paradigm to explain communication within a scientific community also applies to communication within the legal community. Legal professionals negotiate the extent and reach of principles and rules, testing ideas against existing frameworks, just as scientists do. As we reach widespread acceptance of the use and meaning of a word or concept, it becomes part of a paradigm, usually enshrined in high court decisions or legislative actions and, eventually, with a set of key numbers and a new topic in the digests.

¶31 Kuhn does not recognize professions without paradigms; indeed, he notes that the paradigm defines the profession.²⁶ The existence of a paradigm allows for scientific discussion that does not require continual reexamination of the basic principles and assumptions of the field.²⁷ Kuhn posits that a science will become more complex and specialized as its paradigms change,²⁸ and the development of scientific specialties and new fields of study, with their own paradigms, support his thesis.²⁹ Illustrative examples include the relationship of medicine to psychiatry, and the emergence of bionanotechnology, the combination of engineering, biol-

26. *Id.* at 176.

27. *Id.* at 19–20. The textbooks that contain the basic principles and theories of the paradigm allow scientists to experiment assuming the correctness of the existing principles without having to re-create the conditions each time an experiment is begun.

28. *Id.* at 11.

29. See STEPHEN M. FELDMAN, *AMERICAN LEGAL THOUGHT FROM PREMODERNISM TO POSTMODERNISM: AN INTELLECTUAL VOYAGE* 152 (2000).

ogy, and medicine, as a discrete specialty.³⁰ A field becomes recognized as a valid area of study in its own right when there is a sufficient body of knowledge and resources, both primary and secondary in nature, to allow for the development of a theoretical framework.³¹ New specialties require new textbooks to memorialize their paradigm. New fields base their work upon the prevailing paradigms of the existing field, but then create their own paradigms for more specialized work.

¶32 Kuhn's theories hold for law. We have long had discrete fields of law, such as taxation and patent law. These topics have their own highly refined principles and are clearly identified legal specialties. The recent proliferation of both academic and practical subjects, from elder law to environmental protection, brings many more recognized specialties to law and parallels the developments in the sciences. The problems and issues within these areas now are addressed within distinct and different paradigms, requiring specialized knowledge, vocabularies, and texts, featuring complex statutory and regulatory schemes, and relying on detailed court and administrative opinions and technical literature.

Legal Research Then and Now

¶33 Legal research underpins almost everything that is done in law. Traditionally, legal research includes finding a form, locating a rule, identifying a statute, gaining background information on a regulation, and using law books and legal databases in almost any way. The prevailing paradigms, as contained in "textbooks," are the fodder of legal research. Through research, we clarify and verify the "laws, theories, and application" of a subject-specialty paradigm to understand their effects on our situation. Legal research is our scientific experimentation; law libraries were, after all, Langdell's laboratories of the law.³² As law changes through the revolutions described by Kuhn, as the paradigms of the various fields of law expand, legal research responds with a revolution of its own. Where once we researched in a set of common textbooks, most notably the digests, we now search the universe of information. Its effect on our context is marked.

¶34 In years past, legal research was a book-based process. Research was done within the textbooks that memorialized the paradigm of the law, and followed

30. "Bionanotechnology sits at the interface between the chemical, biological and the physical sciences. . . . Utilizing nanofabrication and or processes of molecular self-assembly, nanotechnology allows the preparation of a range of materials and devices including tissue and cellular engineering scaffolds, molecular motors, and arrays of biomolecules for sensor, drug delivery and mechanical applications." Biotechnology & Biological Research Council, BBSRC Response to the Royal Society/Royal Academy of Engineering Study, <http://www.nanotec.org.uk/evidence/81BBSRC.htm> (last visited Jan. 14, 2007).

31. KUHN, *supra* note 15, at 19.

32. "We have also constantly inculcated the idea that the [law] library is the proper workshop of [law] professors and students alike; that it is to us all that the laboratories of the university are to the chemists and physicists, the museum of natural history to the zoologists, the botanical garden to the botanists." Christopher Columbus Langdell, Address at Harvard University "Quarter-Millennial" Celebration (Nov. 5, 1886), *in* 3 L.Q. REV. 123, 124 (1887).

rules-based approaches to research that moved from known facts to a specific legal topic suggested by those facts, and then to concepts and rules within that topic. Legal research required that researchers begin with enough legal knowledge to identify the general area of law involved.³³ Frederick Charles Hicks describes how to teach this process to new law students in his work, *Materials and Methods of Legal Research*, noting that “[t]he instructor must assume such a previous knowledge as will enable the student to analyze his case, determine the principles which probably apply, search out the apposite statutory and case law and locate it in the source books.”³⁴ Although “the law” was one discipline, divided into many subdisciplines, it was still capable of being researched as a whole.

¶35 Student researchers worked within the paradigm of “the law,” using the accepted textbooks of the field. Cases were found in digests. Statutes were identified in annotated codes. Background information came from treatises, encyclopedias, and law review articles. Shared context existed from the beginning. The research process would be repeated, often several times, and research was honed as relevant principles were identified.

¶36 Berring notes that legal research became a “mechanical process” because of the West Digest System.³⁵ This is correct in the sense that one could master the steps of updating a topic and key number throughout the digest system, or using a single topic and key number across multiple digests, or using annotations from statutes to find cases that interpret the sections. It is incorrect, however, in the sense that a researcher also must have knowledge and understanding of the law to find the correct topic and key number in the first place, or even to choose which resources to use. Effective legal research starts within a sophisticated context of background information and knowledge. Considerable analysis and experience are required to understand the meaning and relative importance of authorities, and then to use them to craft a persuasive argument. Hicks notes that “[i]t is a mistake to speak of any of the processes of finding the law as mechanical processes, for one has not truly found the law until one understands it, and this requires a knowledge of substantive law which comes only with the passage of time and much experience.”³⁶

¶37 The bulk of the resources used in print research (digests, statutes, regulations, treatises) consists of information assembled by judges, legislators, attorneys, regulators, law professors—legal professionals all—who work in a shared context gained through education and practice in the prevailing paradigm. Indexes, tables of contents, chapters, and sections all give visible and accessible structure to print

33. This approach to legal research reflects the prevailing school of jurisprudence at the time, generally referred to as “formalism.” In its most basic terms, formalist decision making takes place wholly within the concepts and rules of law or, in Kuhn’s words, within the paradigm. Formalism takes little account of nonlaw disciplines and emphasizes internal coherence. For an introduction to formalism in American legal thought, see NEIL DUXBURY, PATTERNS OF AMERICAN JURISPRUDENCE 9–25 (1995).

34. FREDERICK C. HICKS, MATERIALS AND METHODS OF LEGAL RESEARCH: WITH BIBLIOGRAPHICAL MANUAL 18 (1923).

35. Berring, *supra* note 6, at 22.

36. HICKS, *supra* note 34, at 17.

resources. Shared context allowed these professionals to communicate their conclusions. And it allowed legal researchers to investigate and experiment, to find and use information, within the paradigm defined by legal professionals.

¶38 The entire legal profession is being changed by the introduction of technology.³⁷ The revolution in legal research is a small piece of this change and is a result of the migration to electronic research. In her popular legal research book, *Basic Legal Research: Tools and Strategies*,³⁸ Amy Sloan describes a typical approach taught to law students learning research methods today: “No matter where you begin your search for authority, one of the first steps in the research process is generating a list of words that are likely to lead you through each resource’s indexing system.”³⁹ Sloan goes on to suggest that researchers develop these search terms either as a journalist would—by asking who, what, when, where, why, and how—or by identifying relevant parties, places, and things; claims and defenses; and relief sought.⁴⁰

¶39 “Search terms,” of course, is a computer phrase. Our students need nothing more than this to understand that electronic research is the way to go. The message is clear. Gone now from research instruction is the almost immediate transition into searching for rules by area of law. Gone with it is the structure of the print legal resources that brings immediate context to the research. While Sloan and other contemporary legal research textbook authors cover print resources fairly and accurately, and often strongly encourage their use, today’s law students (and newer attorneys) are already lost to print research.

¶40 The research results of today’s legal researchers feature a dizzying array of resources gleaned from widespread searching of electronic resources. Researchers may begin with Westlaw or LexisNexis, with Google or Wikipedia, or with the Web site of a special interest group. Documents that were once all but unknown and available only to a select few can now be located and read by almost anyone with a computer. Research today is fast, easy, and wide-ranging, and the resulting documents are rich with information. No longer is the legal research universe finite. In this respect, electronic legal research enriches legal research. (In terms of the choices among faster, cheaper, or better, it is much better.)

¶41 This infinite range of resources, however, is not organized in any meaningful way. There frequently is little, if any, hierarchy to offer structure to researchers. Indexes and tables of contents may not exist, and access is usually by a concordance, an alphabetical word list offering no hierarchical guidance. Databases and Web sites are accessed with differing protocols; their content is often arranged in nonvisible ways, making it difficult to fully explore the sites. As a result, if legal

37. “I believe that the practice of law and the administration of justice will be more radically affected in the coming 50 years by IT than by any other single factor of which we can be aware today.” RICHARD SUSSKIND, *TRANSFORMING THE LAW: ESSAYS ON TECHNOLOGY, JUSTICE AND THE LEGAL MARKETPLACE* 79 (2000).

38. AMY E. SLOAN, *BASIC LEGAL RESEARCH: TOOLS AND STRATEGIES* (2d ed. 2003).

39. *Id.* at 19.

40. *Id.* at 19–21.

researchers working on the same issues define the problem in different ways at the outset of their research (something common among law students, if not practitioners), and they work without a pre-assembled set of resources or overarching hierarchy, they might never reach that core of common rules or cases that would be identified readily within the closed universe of the digests and print resources. When this happens, despite the internal coherency of the resulting writing, there is no shared context and thus no communication.

¶42 Paul Saenger, professor and curator of rare books at the University of Chicago Newberry Library, reflects on the development of the typographical conventions, primarily word spacing, that allow readers to more quickly read and understand a written document. Saenger refers to the practice of moving in and out of a text swiftly, consulting only a piece of the whole, as “intrusive consultation.”⁴¹ This well describes searching documents by keyword, a practice that returns words in isolation of their larger context, as noted by Jeffrey Garrett, linguist and assistant university librarian at Northwestern University Library.⁴² Garrett concludes that the results of keyword searching could be called “the Frankenstein Fallacy: You pull a beating heart out of a body and put it somewhere else, and indeed, it still is the heart, yet in any meaningful way it is the heart no longer.”⁴³

¶43 In addition, as illustrated by Bast and Pyle,⁴⁴ students use their keyword search results to develop principles. They do not actually locate the principles in their research. Principles based on keywords rather than legal concepts may bear no relation to the actual state of the law, often disregarding the greater context in which the keyword is used. Law students no longer engage in the cyclical research of old, finding and refining principles with repeated searches. One search is usually enough.⁴⁵ When rules are derived from keywords and not located in the field’s paradigmatic textbooks, even the correct legal term may be contextually inappropriate. Garrett notes that “keyword searches retrieve both commensurate and incommensurate occurrences of words—incommensurate in relation to the content the keyword is supposed to represent.”⁴⁶ Word meanings change in their context. If there is no shared context, the lessons of Ogden and Richards explain why there is no shared meaning.

Finding Legal Context

¶44 Effective legal research begins within the paradigm of an area of practice or study, searching the textbooks that provide the basic structure and context for the

41. “[T]hose who read relished the mellifluous metrical and accentual patterns of pronounced text and were not interested in the swift intrusive consultation of books.” PAUL SAENGER, *SPACE BETWEEN WORDS: THE ORIGINS OF SILENT READING* 11 (1997).

42. See Jeffrey Garrett, *KWIC and Dirty? Human Cognition and the Claims of Full-Text Searching*, J. ELEC. PUB., Winter 2006, <http://hdl.handle.net/2027/spo.3336451.0009.106>.

43. *Id.*

44. Carol M. Bast & Ransford C. Pyle, *Legal Research in the Computer Age: A Paradigm Shift?* 93 LAW LIBR. J. 285, 297, 2001 LAW LIBR. J. 13, ¶¶ 45–46.

45. See *id.* at 296–98, ¶¶ 42–50, for a discussion of the differences between print and electronic research.

46. Garrett, *supra* note 42.

field. As law becomes more interdisciplinary, as it depends on nonlegal information outside the strictly defined field of law, and as more information in all areas becomes available, research is conducted routinely in nonlaw areas, ranging from engineering to economics to ethnic studies. Information from these nonlaw areas impacts and is incorporated into the development and application of accepted legal principles, the paradigms, of many areas of the law.

¶45 The changes in legal research occasioned by new legal specialties with their own emerging paradigms are magnified by the rising dominance of electronic research. There is much more important and pertinent information, legal and nonlegal, available for almost any issue. What legal writing would not be enriched and made better by population statistics, or technical reports on fuel efficiency, or environmental impact statements, or medical studies, or any of the other seemingly endless range of materials now easily available and readily located, especially through electronic means?

¶46 However, we no longer have the comprehensive, authoritative sources, the textbooks, in which legal researchers agree that they must first begin the search for legal information. The digests are limited in coverage to cases and, to a much lesser degree, statutes. Annotated codes have more research information than the digests, often including citations to law review articles, regulations, legislative reports, and related types of materials, but they include links to electronic sources only unevenly and rarely refer to nonlaw materials. Treatises offer a wider range of information than digests or codes but are, generally, selective in content and coverage even within a specialty. Existing legal resources, whether print or electronic, do not provide the comprehensive, structured information necessary to qualify as textbooks. In the absence of textbooks, why would legal researchers not turn to the entire world of electronic research? It would be folly not to.

¶47 Electronic information sources give us the world of information at our fingertips. And that is precisely the problem. Results found via the computer, based on “search terms,” can be a mixture of primary and secondary authorities, special interest statements, opinionated documents, and a host of other types of materials. This is especially true with federated searching across a huge range of electronic resources or with general Internet searching. “[P]rofessionals are inundated with too much information, and they have very few tools to help them handle the flood.”⁴⁷ Law’s specialties have none of Kuhn’s authoritative textbooks to give structure and guidance to their rules and to report comprehensively the accepted principles and theories of the field. Even with what seems to be a narrowly focused search, we often find so much information that we just do not know what to do with it.⁴⁸

47. Susan Feldman, *The High Cost of Not Finding Information*, KMWORLD MAG., Mar. 2004, at 8, 9, available at <http://www.kmworld.com/Articles/ReadArticle.aspx?ArticleID=9534>.

48. As an example, I tried a Google search for the highly specific term “bionanotechnology.” I received 182,000 hits in 0.09 seconds. I tried “bionanotechnology education” and narrowed it down to 53,600 hits in .10 seconds. I narrowed it further to “therapeutic bionanotechnology education,” with a resulting display of 10,200 hits in 0.08 seconds. The information may or may not be unhelpful, could I understand it. It is difficult to judge its reliability, and because there is so much of it, the resources I choose most likely will create a context for my writing that is not shared with others.

¶48 Electronic research provides a shifting context for our problems. When there is no framework within which to conduct research, each researcher is likely to find and select a different set of results. With so much information, the researcher must choose those documents and authorities that seem most relevant and best support his or her position. Using those authorities, the researcher creates an individualized context from the materials. This context may or may not reflect the field's paradigm and be shared with others, even in a narrowly specialized field. One-to-one communication becomes more difficult, as the environment necessary for an effective exchange of ideas and information requires more explanation and negotiation. Communicating with a group becomes even more challenging. Without shared context to give meaning and texture, legal writing and speaking become just words. Law's rules become nothing more than Llewellyn's "pretty playthings."⁴⁹

¶49 Kuhn states that "[i]n the absence of a paradigm or some candidate for paradigm, all of the facts that could possibly pertain to the development of a given science are likely to seem equally relevant."⁵⁰ A paradigm is not complete without its textbooks. The paradigm depends on its textbooks to provide a structure and hierarchy and allow researchers to identify the relevant facts and principles. Electronic searching in databases or the Internet does not substitute for using textbooks. There is little, if any, conceptual relationship among the search results that come from seeking facts reduced to keywords.

¶50 To accomplish good legal research and to communicate the results of that research, we need shared context, not individually created contexts. Shared context is gained by working in the textbooks that contain the accepted principles and rules of the paradigm. It is the structure provided by the paradigm that provides the researcher with some reliable indication that he or she is on the right research track. To research effectively, we need accurate and reliable textbooks—either print or electronic or both—to preserve and pass on the principles of the paradigm.

¶51 Good legal research in the electronic world results in that mix of relevant, prevailing primary authorities, expository materials, and secondary authorities that allow for an understanding of the background and development of topical theory and principles, and identification of applicable rules and regulations. Good legal research finds the authorities that allow us to predict future application of legal rules. This has long been our goal for research,⁵¹ and it remains unchanged with the migration to electronic research tools and methods. Relevance is determined by the prevailing paradigm of a field of law, whether the field be employment law, elder law, environmental law, or any other. Relevant authorities provide the shared context necessary for effective legal communications.

49. KARL LLEWELLYN, *THE BRAMBLE BUSH: ON OUR LAW AND ITS STUDY* 14 (3d prtg. 1960).

50. KUHN, *supra* note 15, at 15.

51. *See, e.g.*, ROBIN WELLFORD SLOCUM, *LEGAL REASONING, WRITING AND PERSUASIVE ARGUMENT* 3 (2d ed. 2006) ("As an advisor, your goal is to predict what the law will have to say about your client's situation.").

New Textbooks for New Paradigms

¶52 As legal researchers, we do not need to define the paradigms of a field of law. That is the work of the practitioners and scholars.⁵² However, we must have familiarity with the textbooks of the law, cited by Kuhn as the indispensable tools that contain the basic principles and assumptions of the fields of law. Now, however, new legal specialties and new paradigms are arising so quickly that the creation of textbooks has lagged behind.

¶53 Legal researchers, and especially law librarians, should take the lead in developing textbooks for the new legal paradigms. The textbooks are the basis for research, containing the rules, principles, and assumptions that structure the field. Our backgrounds in law and in legal research, together with our knowledge of methods of effective organization of information, put us in the best position to guide the development of new tools for new paradigms.

¶54 Textbooks need not be of a particular format: treatises, digests, annotated codes, magazine articles, or the contents of computer files could all serve the purpose given the right content. A textbook must be generally accessible to individual users, specialists, and laypeople alike, because the textbooks of a field are its common denominator. The textbook's information is pedagogical, transmitting the paradigm—the law, theories, and applications of knowledge—from generation to generation of students, scholars, and practitioners. Indeed, Kuhn notes that “both the layman's and the practitioner's knowledge of sciences is based on textbooks and a few other types of literature derived from them.”⁵³

¶55 The West Digest System has been the primary textbook of “the law” for decades. Our research focus has been on court decisions because of the responsibility and importance our legal system places on the interpretation of law and settlement of disputes by the courts. The digests provided access to almost the entirety of American case law, organized in a manner that gave clear, hierarchical structure to the principles and rules derived from the cases. The digest system is comprehensive in its case coverage, even expanding in recent years to include “unpublished cases” from the federal courts. As textbooks, digests were supplemented by annotated codes, legal encyclopedias, treatises, restatements, and myriad other print legal resources, many of which were cited in or cited to the digests. This research system, at least in its print form, was accessible to practitioners and laypeople alike, even as it expanded into an electronic format.

52. Bast & Pyle, *supra* note 44, at 298–301, ¶¶ 51–61, assert that computer code will be the new paradigm for legal research, replacing the previous paradigm of the digests. They rely upon Kuhn for the description of a paradigm, but do not discuss whether legal research is a “profession” that itself requires a paradigm. However, like delivering an oral argument or negotiating a contract, legal research is a process (or a series of processes) that occurs within and is structured by a prevailing substantive legal field's paradigm. To my thinking, the digests were the textbooks and contained the principles and rules of the profession's paradigm, but were not themselves “the law.” Computer code does not seem to be within the scope of either a paradigm or a textbook, as contemplated by Kuhn.

53. KUHN, *supra* note 15, at 137.

¶56 As law increased in scope and specialization, and the number of court decisions multiplied correspondingly, the digests grew almost exponentially in size. In print, they became cumbersome and problematic to use. These problems are essentially alleviated in the electronic version as their contents are updated continuously. But the digests have become unresponsive to changes in the law, as the subject-based topics into which headnotes are classified are slow to reflect emerging specialties. Their use also requires a Westlaw subscription, which limits accessibility to the public and to some practitioners. The vast majority of Westlaw users move directly into subject databases and bypass the digests completely. The digests' utility as the primary textbooks of the law, together with their role in providing a shared context for legal research, is diminished if not ended.

¶57 Law's paradigm has changed. No longer can "the law" be regarded as a monolithic entity. It is, instead, a series of subject specialties—with their own rules and applications, their own paradigms—based on a common foundation of principles and practices. Law parallels medicine, biology, chemistry, physics, and other scientific fields in this regard. Students no longer attend law school to become "lawyers." They now aim to become "environmental lawyers" or "family lawyers" or "civil rights lawyers." Those attorneys who represent themselves as general practitioners recognize the necessity of referring many issues to lawyers who proclaim themselves specialists, even as they themselves concentrate their own businesses in certain areas.⁵⁴

¶58 As law has undergone a revolution (or a series of revolutions), so too must its textbooks. As Kuhn notes, textbooks "have to be rewritten in the aftermath of each scientific revolution."⁵⁵ Specialized resources abound for virtually every new field of law, but the primary, authoritative textbooks remain unassembled. The new law textbooks must reflect the new legal paradigms of subject specialties, recognizing that law is now a series of subject specialties with common foundational doctrines.

¶59 Digests, the previous textbooks of the law, no longer serve our purpose. They are print tools for case finding and, even when converted to electronic format, are incomplete in their coverage of essential legal authorities such as statutes and regulations, not to mention secondary and nonlaw sources. Digests focus on law as a whole and are organized by geography or by jurisdiction. What are needed are tools that are subject-based. The *Pacific Digest* no longer reflects the national interpretations

54. "[M]any lawyers concentrate their practices to certain fields. In fact, most specialize to some degree by limiting the range of matters they handle." Standing Comm. on Specialization, Am. Bar Ass'n, *Your Lawyer and Specialist Certification*, <http://www.abanet.org/legalservices/specialization/your.html> (last visited Jan. 14, 2007). "A survey of lawyers who applied for and received certification as specialists in various fields, which was commissioned by the ABA Standing Committee on Specialization, revealed that many of them could be described as solo and small firm lawyers, most of whom would describe themselves as general practitioners. The survey found, [among other things, that] most solo and small firm practitioners with more than five years of practice have confined their practice to not more and usually less than four recognized legal specialties." Richard Howland, *Lawyer Certification: Defining and Marketing What Lawyers Do Best*, *COMPLEAT LAW.*, Fall 1996, at 29, 30.

55. KUHN, *supra* note 15, at 137.

of law that now are the paradigms. Information organized more along the lines of an “Employment Discrimination Digest,” with national coverage, would be far preferable, and would begin to allow us to conduct and teach legal research with the kinds of specialized tools that provide context to research in the field.

¶60 Even if repackaged along subject lines, however, digests alone cannot be law’s new textbooks. They do not contain all the information needed to adequately convey the principles of the new legal paradigms. Digests are for finding cases. Legal professionals need access to statutes, regulations, secondary materials, scientific studies, and regulatory materials. Whatever their arrangement, digests were not developed as tools to retrieve the range of information now integral to the practice of law.

¶61 Furthermore, digests do not work well in an environment where electronic research is the method by which information is retrieved. Law’s new textbooks must be designed for research in an electronic environment, not converted from print into an electronic environment. Westlaw’s topical databases and LexisNexis’s topical libraries begin to resemble the types of tools we need today. Neither, however, has all the resources that provide the context of the field.

¶62 Kuhn was correct in noting that, in mature fields, the importance of the monographic textbook declines and other means of communications rise in significance.⁵⁶ Tools that combine existing resources like Westlaw’s KeySearch and ResultsPlus, which offer extraordinary interconnectedness with other resources, with the structure of the digests could bring both comprehensiveness and context to legal research. This type of new tool could form the basis for the textbooks of the new legal paradigms.

¶63 Law’s new textbooks will provide shared context for legal research and for the communication of legal information. They will educate law students and attorneys in the rules of the new paradigms, while continuing to shape substantive legal fields, just as the digests did. It is imperative that the new textbooks be capable of use by practitioners, law students, and the public. They must be easy to use, and they must organize and structure the fields of law.

Conclusion

¶64 Berring’s description of the digests as embodying the “grand scheme”⁵⁷ of the law was correct; the digests were the textbooks for the entirety of law, organizing the rules and applications that made up the paradigm into a coherent whole. He notes that “[i]n traditional legal research the major method for finding cases was the American Digest System. Like it or not, practitioners and researchers internalized the West structure, and it became the skeleton upon which the rest of the system was built.”⁵⁸ The digests served to educate and guide generations of law students, lawyers, and laypeople. Digests provided a context for legal research. By

56. *Id.* at 19–20.

57. Berring, *supra* note 6, at 23.

58. *Id.* at 25.

working within their structure, legal researchers were able to divine the principles of the law and communicate them in a shared context.

¶65 The structure and authority of West's case reporting system and the digests, Berring suggests, contributed to the endurance of the formalist notion of the "grand scheme" of the law,⁵⁹ despite the growing challenge of fitting thousands of new cases, in emerging fields, with their "unorganized and contradictory principles,"⁶⁰ into the digests' hierarchy. More than one writer has proposed a link between the literature of the law and the continuation of formalism as an accepted jurisprudential theory, even in the face of legal realism⁶¹ and its dislike of formalism's rigid rules and insistence on decision making based only on legal sources.⁶² The digests' structure, and their role as textbooks, helped maintain a shared context.

¶66 Berring notes that "[a]llowing people to go online in free text liberates them from any requirement to fit their thoughts into a pre-existing structure. Individual researchers are able to order legal doctrine as it suits their needs."⁶³ Legal research no longer requires beginning with knowledge of the law because the emphasis of electronic research is on facts and keywords, not legal concepts. Research now is truly a mechanical process of entering factual words into a database or search engine and retrieving results. These research results appear to support the realists' claims that law has no internal consistency. They dispense with the shared context of a profession, despite its necessity for effective communication.

¶67 Without textbooks that reflect the new paradigms of law, legal researchers are unable to work in the shared context that allows them to communicate effectively; rules cannot be found or understood, theories tested, or assumptions challenged. Law's revolution into specialties, with their own paradigms, remains incomplete without authoritative textbooks. Attention should be paid by the practitioners and scholars, and by legal researchers, to developing subject-based research resources. It is critical that these resources be usable in electronic research, or they will not be used at all.

¶68 We should not have to compromise, not have to choose only two from among the criteria of "faster, cheaper, better." It should be possible to have all three, by preserving the speed and cost-savings of electronic research while creating a legal research system that does not involve compromising context and communications. With new textbooks for new substantive legal fields, we should be able put the adage to rest. New types of textbooks may even be able to combine the certainty of formalism with the "reality" of realism. We should not have to compromise when it comes to improving legal communications. The stakes are too high.

59. *Id.* at 24–25.

60. *Id.* at 22.

61. Realism, at its core, asserts that law is less a product of legal rules than it is of the decision-makers' personalities and experiences and a multidisciplinary array of authorities. Realists chafe against the structure and limitations imposed by a conception of law as having an overarching, internal consistency. See Duxbury, *supra* note 33, at 79–92.

62. See Berring, *supra* note 6, at 24–25 (citing LAWRENCE FRIEDMAN, HISTORY OF AMERICAN LAW 282–92 (1973)).

63. *Id.* at 26–27.