**What a Computer-Based Legal Reference Work
Can and Must Deliver**

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I. Introduction

For two and a half years, I have been working on a project
that I have most often described to law people as an electronic
treatise on Social Security Law, a phrase that at the same time
offered a comforting explanatory link to the familiar but also
resonated with a puzzling and, to many, quite mysterious science
fiction sound. The idea of a computer-based treatise more often
ended discussion than stimulated it. During the early stages
that may have been exactly what I wanted for I wasn't at all sure
where the project might come out, although I was almost foolishly
confident about the direction of the journey. "Electronic" of
course said something about the storage and distribution medium,
but nothing about feel and function -- how such a new form of
legal reference would work. My aim, short and simple, was
creation of a computer-based legal reference work that could
replace print sources in the field, or at least place print in a
supplemental rather than central role in the research process.[1]

Last November, the first piece of that project, in many

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[1] Here and elsewhere except as the context says otherwise I
am referring to print as a source of information as distinguished
from print as a form of output for computer-based information.

ways its core, went "up" on LEXIS, making it possible for me to relate my views of what an electronic treatise might do and be through a concrete illustration.[2] At the moment it is, however, at least as much an illustration of the limits such a work must overcome as of the promise of this type of reference.

II. Why An Electronic Treatise

The conviction that has propelled my work over the past two and a half years is that the era of the electronic treatise has arrived. This belief rests on several interconnecting elements that I shall call the technology predicate:

* The first element has to do with the completeness and wide distribution of digitized law information. A full set of primary materials in most fields of law now exists in digital form, distributed online by Mead Data Central and West.

* A second element has to do with the maturity, the sophistication of the software environment through which users access that information. Both WESTLAW and LEXIS offer a fairly rich hypertext environment, user options, navigation moves, command concatenation, flexible display modes, download and print capabilities.

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[2] Martin on Social Security Law is located in the PUBHW library of LEXIS. Within that library the point of entry is the file denominated TABLE.

* A third element of the technology predicate has to do with the software and data storage capability at the user's end -- the rapidly spreading operating environments that allow operation through a point and click, graphic interface and the fluid connection of legal information retrieval software to writing and local data storage applications. Add the availability of cheap and reliable local data storage and the result is an explosion of options
for authors of electronic works, a dramatic reduction of the expertise required of users, and a quantum increase in the possibilities for integrating legal research with other computer-based user work and work product.

* A final element concerns the hardware delivering information to the user/reader -- monitors, computers, modems, printers. Dramatic improvements in these components of a computer information delivery system make print on demand and even reading from the screen competitive with print-based systems.

Because these developments have resulted in a rapid system for retrieval by conventional citation, with review online and rapid print on demand or download, they have in a sense converted most print materials to mixed media reference works. Print references can be followed precisely as written into the electronic library. At least one print publisher, West, has gone

further and incorporated related database searches as references in print works. The media cross over creates an awkward interface but hardly an impossible or even severely intimidating one. And when the print versions of the referenced documents are distant, the cross over can seem downright smooth.

III. Advantages An Electronic Treatise Might Offer

The advantages an electronic treatise can offer over print fall into several distinct categories.

A first advantage is information density or compactness which can translate into both reduced cost and increased covenience. This is a powerful advantage but not enough by itself in many areas to pry people away from print.

An important second area of advantage has to do with how users find and understand and relate information. With suitable software and hardware the screen offers a better window on the relevant legal texts than a printed reference collection. To begin, a reasonable professional workstation today can (although current online systems do not) deliver as many characters, symbols, different fonts and other cues to organization and meaning as a printed page. But that is simply attaining parity. With suitable software the reader need not be burdened with details or references he does not wish to pursue, a clear gain over print. With suitable software the reader can follow references within and across document types immediately and return with the same speed. With suitable software the reader is not limited to references seen and coded by the author but can build on or add to them.

A third area of advantage is user appropriation and annotation. In a way impossible with print, useful material in an electronic reference can be appropriated easily to support the user's work. With suitable software the reader can retain his own views and experience within the same information structure (electronic annotation, if you will, and more).

Integration with other information sources is a fourth area of advantage. Updates can be integrated seamlessly; they need not be segregated in supplements or pocketparts. Bridges between different online information products and between local data (.e.g, CD ROM) and online legal information can be far smoother than their print counterparts.

IV. Which Area of Advantage Is Most Important

What is most different about an electronic treatise? The most signficant difference, I now believe, lies in the footnotes or the connections between author text and underlying legal source documents.

Footnotes are a salient feature of law writing. They are maligned, misunderstood, and misused. Much of the abuse flows from confusion about the many roles of the footnote and a failure to distinguish among different types of law writing -- the judicial opinion, the brief, the opinion letter, the journal article aimed at other scholars. The type of footnotes referred to here appears a treatise or law journal article which sets out to map a law domain for practitioners and judges and others. Whether in fact through a footnote or through a reference embedded in the text, the author of such works routinely links the description, analysis, or mapping of the text to relevant authoritative law documents. In most cases, these are documents the reader whose problem lies around the point will want to consult and which may themselves provide further linkages.

Let me make a few observations about how these print references work, at the risk of boring you with a restatement of the obvious.

* Footnotes reveal the fundamental dependence of most treatises on a library of referenced material. The typical treatise carries an implicit assumption that the reader has access to most of the material cited in the text, although not necessary precisely at the time of reading. These books do not stand alone.

* Most readers of most treatises don't read them from beginning to end. Instead the typical treatise user enters the book with a problem seeking some mixture of: overview (assisting issue identification), legal analysis of the problem area, and pathways into the law, that is pathways to what counts as primary authority in our legal system -- statutes, regulations, court opinions and the rest.

* A reader in pursuit of a solution to a particular problem can ignore many footnotes, but will in the end, if fortunate, find some few of critical importance.

* Treatise readers expect a high level of selectivity or author judgment. There may be points on which all relevant documents can be fit into a short list and there the reader may expect a footnote to be comprehensive. But more commonly there will be many more decisions on the issue than the page will bear or the reader will wish to consult. Readers expect the author to screen for validity and select using other criteria as well such

as precedential weight, clarity, degree of recognition of the soundness of the position. (Authors who cite cases overruled at the time of publication are consigned to one of the hotter regions of hell.)

* Readers also expect updates, new editions, pocket parts. The author of a journal piece can dump it and run, but the author of a treatise that enjoys any acceptance enters into an ongoing relationship with the work, including or perhaps even especially its footnotes.

IV. Electronic Footnotes

The most immediate gains of electronic footnotes relate to some of the practical limits of those in print.

* In many work settings following a print reference is difficult or impossible (at the moment). Consequently, readers follow fewer references than they would if the move were easier, they follow references later than they might otherwise (saving a list of references to pursue), and authors respond with far more quotation, excerpting, and summarizing than they would if readers had swift, easy access to the cited text.

* Space, visual clutter, information management questions limit references in print. The tradeoff is resolved differently

in the typical treatise and the typical annotated statute, but both illustrate the problem. Consider the many good reasons, other than author sloth, why few if any good treatises furnish the leading decision from each state or U.S. circuit on each point. Yet that is a feature that most readers in most problem situations would find useful.

* Updates are a major problem, no matter how serious author and publisher are about keeping the work current.

Treatise footnotes are embedded in a matrix or map created by the author. In many fields, an important set of coordinates is furnished by statute or regulation, but in few fields can a good treatise simply adopt the organizing scheme of the underlying legislation. This is especially true of a statute like the Social Security Act which has experienced so much change by tinkering. The original orderliness of the statute has long ago been covered by a mosaic of amendments -- many simply fastened to the nearest section at hand.

Following the author's map, the reader finds an area or topic that bears on the problem or issue that prompted the research. The software of both LEXIS and WESTLAW already enable the straight forward, static footnote move -- the move from a listed reference to the document and back. The powerful difference between this electronic footnote and one in print is

that it can be followed immediately when and where that fits the rhythm of the reader's pursuit of understanding.

Both LEXIS and WESTLAW also furnish efficient ways to pull in a large number of items. Consider the situation where in print the reference would be et seq. or this through that or a long list of items. Wild card characters, short hand forms of reference, and block and transmit software give the reader control over that kind of reference that print does not. Consider a move from a treatise topic to the several relevant paragraphs of a regulation. One way to implement the move when the units are in a logical sense adjacent would be to trace a path to the first and then have the reader shift into a browse mode and step sequentially through. But an alternative that I find more powerful is the group citation retrieval. This move allows the reader to scan the multiple documents in more detail than the standard footnote, but much less than full text. It enables the reader to investigate the material in non-linear order. It enables the reader to search within the set for key words.

The update cycle from author to footnote revision can be very short with an online treatise. Within weeks my LEXIS Social Security treatise contained references to the important amendments contained in the Omnibus Budget Reconciliation Act of 1990. Updates occur automatically when a document that is pulled

by a reference is amended while retaining the same citation identity.

It is, however, the dynamic footnote that has me most excited about this medium. This new type of footnote is prepared by the author from the data side. While in fundamental concept it is not new, the computer gives the concept new power and flexibility and brings the formerly impossible within an author's reach. Even with frequent revision the print footnote is a static presentation from author to reader. The idea here is of a footnote search that the reader fires, or fires and modifies, fires and focuses. A search that in effect says to the author's reference work: What has that footnote got today? It is a search that works because the author has coded the data against the footnotes. That is how my LEXIS treatise connects with appellate decisions.

Note the possibilities this opens for dealing with the too many footnote references problem. First of all the retrieved authorities can be stacked in useful order by court and date. They can also be selected and sorted by the user. The result is a significantly different author/reader partnership, with the author doing at once more and less. The user/reader has far greater control over the direction and precision of the reference.

Each document found through an electronic footnote can itself be a spring board for further exploration, through pursuit of its references or other references to it (the citator move).

In sum the principal gains of the dynamic footnote have to do with author/reader treatment of the quantity problem, cross issue selection and other true database manipulations, and treatment of the datedness problem.

VI. Minimum Features An Electronic Treatise Must Offer to Gain Acceptance

My strong conviction is that despite compactness or information density and all the advantages represented by what I have here called electronic footnotes, a novel reference tool of this sort will not find wide acceptance unless it presents itself in familiar guise to those who are used to print. It must offer all the functionality of print and more. It must be superior to current online resources in many respects. Finally, its advantages over print and current online resources must be dramatic and easily accessible.

Given the state of the art, I believe this to be possible but not easy. In my judgment the desirable minimum electronic treatise package includes the following elements of functionality:

* It should be a Windows application capable of graphic display and should make full use of the Windows graphic user interface.

* It should offer two information selection and presentation features not found in print or the current online systems. The first I shall call expoding detail capability. The system should be capable of displaying a document (statute, regulation, decision) as a list of headings, any one of which can be expoded into full text (in the context of the remaining headings) through point and click interaction. Second it should be capable of displaying a reference to statute or decision(s) as a symbol so that the reader's eye is neither abused nor confused by references it is not interested in pursuing. That symbol should openable to display the references in print-like format before the user commits to moving along the reference.

* The work should have extensive hard-coded links connecting all document types within its collection, including all references in judicial opinions to other decisions, to the statute, and to regulations.

* It must have the capability of delivering a standard form citation for all authority contained on the disk, including all judicial opinions so that the user need consult no other source before quoting or citing material found in the electronic

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collection.

* It requires the capability of performing real-time
searches of all document types, using modifiable author
formulated searches as well as user written ones, using author
codes or not as the user wishes.

* The system should be capable of delivering first-rate
print versions of its contents (so that the user can choose to
work with five key decisions as well as the relevant statute and
regulation sections in print). With a laser printer that print
copy should be as nicely formatted as those delivered by a book.

* Block and copy to notes/brief/memo should be available,
without confining the user to a strange or less capable word
processing environment. Extracted material should be stamped
automatically with a full citation.

* The system needs be able to save the user's location and
searches and also to retain certain user specified default
settings.

* Reasonable navigation aids have to be a part of the
package.