

Computers and Legal Research

O BAR

by William G. Harrington

1970

Aug. 8

There is a need in the legal profession for a new method of locating cases, statutes, regulations, articles and other relevant material used in legal research. The Ohio State Bar Association has developed a computer program that performs the mechanical functions of locating research materials for the lawyer.

MORE THAN FIVE years ago the Ohio State Bar Association concluded that there is a real need in the legal profession for a new method of locating cases, statutes, regulations, articles and other relevant material used in legal research. The amount of material produced by the Congress and the legislatures, the courts, the regulatory agencies and legal scholars increases every year, and the rate of increase itself is steadily increasing. The effectiveness of traditional methods of locating this material—indexes and digests—diminishes rapidly as the amount and variety of the material indexed or digested increases. All indexes and digests are subject to serious inherent limitations, including the serious limitation implied in the fact that all of them are subjective. Even the best conceived and maintained of them have become conspicuously inadequate.

properly skeptical of computers because they knew that for years the sponsors of some systems had been promising much more than they could perform. It was judged that only the organized Bar could readily regain their confidence. A computer research system controlled by the Bar could be assured of the attention of the profession and could be operated so as to be certain that professional standards of thoroughness, accuracy, confidentiality and objectivity were maintained.

Investigation Results in Development of New System

A thorough search and investigation were made of all existing and prospective computerized legal research systems. As a result of this investigation, the Ohio State Bar Association concluded that no system then existing met the professional standards the bar association had set for itself and was, in addition, economically feasible for use by the profession. Therefore, it was necessary to develop a new system.

After seeing presentations made by a substantial number of computer firms the Ohio State Bar Association in 1967 entered into a contract with Data Corporation of Dayton, Ohio. Data Corporation already was deeply involved in programs using the computer to retrieve textual material, and it seemed likely that it would be able to modify its existing system to meet the requirements established for the Ohio system. Data Corporation has since become a wholly-owned subsidiary of Mead Corporation, and the general data retrieval operations of the corporation have become known as Mead Data Central.

Through all the initial stages, the work was done by members of the

no issue no., but collected in No. 12
December, 1970 • Volume 56 1145 -1148

UCBLAW KBI
A497
ABAS

The Ohio State Bar Association, relying principally on its own investigations but utilizing additionally other studies that were available, became convinced that a computer program could be developed which could perform for the lawyer the mechanical functions of locating research materials and could do so on an economically feasible basis while meeting professional standards of thoroughness and objectivity. This conviction was the impetus for the initiation of the Ohio Bar Automated Research System.

Early in the association's investigation of existing programs and of prospective ones promised by various software companies, it became apparent that a computerized research system would be more likely to be of service to the profession if at least a substantial degree of control were exercised by the organized Bar.

In the first place, many lawyers were

American Bar Assoc. J.



Wally Nelson

William G. Harrington is Research and Legislative Counsel, Ohio State Bar Association, and Executive Vice President, Ohio Bar Automated Research Corporation. He is a graduate of Marietta College (A.B. 1953), Duke University (M. A. 1955) and the Ohio State University College of Law (J. D. 1958).

Ohio State Bar Association staff who took time out from their other duties to launch the new project. In 1967 the association formed a nonprofit corporation known as Ohio Bar Automated Research—O.B.A.R.—the association's subsidiary for managing the computerized research program. The O.B.A.R. corporation now has a staff of its own, although it remains very closely associated with and is controlled by the Ohio State Bar Association.

The funds necessary to initiate the project and to meet the obligations incurred under the contract with Data Corporation were raised by selling debentures of the O.B.A.R. corporation to members of the Ohio Bar.

Three Important Features Make the System Unique

The computerized legal research system developed through co-operation between Ohio Bar Automated Research and Mead Data Central, Inc. is characterized by three important features that in combination distinguish it from any other system or purported system of computerized legal research offered to the legal profession. The three distin-

guishing features are: (1) The system operates by searching the full text of the legal material on a word-search basis, without resort to any indexing, digesting, or other editing or tampering with the original materials; (2) it is a full time-sharing system, which means that each lawyer may have a communications terminal in his own office and communicate directly with the computer without the intervention of any third party; and (3) the program permits the lawyer to conduct a continuing dialogue with the computer. This combination of features enables a lawyer to use the computer to conduct an extremely rapid, thorough and accurate review of legal materials contained in the computer memory bank, entirely on the basis of his own judgment as to what materials he wants to see and how he wants them searched, with a high degree of accommodation to his own personal research preferences and habits. The lawyer is not compelled to adapt himself to the computer's method of search; the computer adapts itself to him.

The fact that there is no indexing of the material in the computer's memory bank is basic to the system. It means that no separate intelligence intervenes between the lawyer who is doing the research and the judge or legal scholar who wrote the material being researched. All material that is loaded into the computer is placed in it on a full-text basis—that is to say, every word that appears in the original document is placed in the computer, complete with punctuation, etc. The legal material is not reduced to computerese.

Further—and what is much more important—the lawyer who is using the system is not limited to any group of questions prepared for him by the computer programmers but may exercise his own ingenuity in developing any question he wants to ask of the computer. The computer is his mechanical servant, acting as an extremely rapid reader of a large volume of material and sorting out from it those documents which are relevant to the question he has asked.

Full time sharing means that lawyers communicate directly with the com-

puter through communications terminals installed in their offices. At the present time some twenty Ohio law offices have teletypes installed and communicate directly with the computer over long-distance telephone lines. Other types of communication devices, involving television screens on which legal material appears at the order of the lawyer, are being made available and will soon replace some of the teletypes. More than one lawyer can communicate with the computer and use it simultaneously, and it is anticipated that ultimately as many as 300 communications terminals may be located in Ohio. Again, the system operates without the intervention of any third person. The lawyer need not utilize the services of a "computer expert" to use the O.B.A.R. system. With a little training and practice, each lawyer is able to use the system himself.

The dialogue feature of the O.B.A.R. system has proved important to the profession. Other systems demonstrated to the Ohio State Bar Association during its investigation operated on a one-shot basis. That is to say, the lawyer formulated a question and transmitted it to the computer through the "computer experts" of the operating company. He received a body of material in response to his inquiry, and, if that body of material was too great or too small or proved not to be in point on the question he was researching, he was compelled to do another search and to pay another fee. The O.B.A.R. system permits the lawyer to submit a question, take a quick look at the results and modify his search to refine it and make it more directly responsive to the research problem he has before him. In a typical search the lawyer first states a somewhat broad question to the computer, takes a preliminary look at the results, and then instructs the computer to refine the search by selecting out of those cases located by his broad search only those which meet his subsequent narrower requirements. If he finds he has stated a search too narrowly or restrictively at first, he can broaden it if he so wishes. In short, the lawyer is in complete control of the computer

and ma
until l
rials wl
needs.

Trainin Requir

To us
must co
tion in
complic
the sear
but lega
lawyers
now usi
published
O.B.A.R.
and all
able the
tively.

No p
corpora
thoroug
the O.B.
rather c
underst
stration
tional c
simply
proved
theory
able sys
ingly in
ies of O

The 1

The 1
O.B.A.R.
high-spe
The law
typing o
displays
the tele
of the
wishes
that app
resses
is on th
machine
graph.

and manipulates it at his command until it locates for him a body of materials which meet his own particular needs.

Training of Lawyers Requires Some Education

To use the O.B.A.R. system a lawyer must commit himself to some education in its methods. The process is not complicated, however, and the logic of the search system is not computer logic but legal research logic. Training of lawyers in the Ohio firms which are now using the system has been accomplished in a matter of one or two days. O.B.A.R. provides instruction manuals and all other necessary materials to enable the lawyer to use the system effectively.

No purpose would be served by incorporating in this article any more thorough description of the features of the O.B.A.R. search system since it is rather difficult to visualize and is best understood only by seeing a demonstration. The most significant additional comment to make at this time is simply that the O.B.A.R. system has proved in practice and not just in theory to be a practicable and workable system that is being used increasingly in law offices in all the major cities of Ohio.

The usefulness of a computerized re-

search system increases proportionately to the amount of legal material which has been placed in the memory bank. In Ohio, at the present time, the memory bank of the computer contains the full text of the constitution and code of statutes plus the full text of all reported decisions of the supreme court, courts of appeals and lower courts of Ohio. In other words, the computer memory bank in Ohio contains a complete library of all Ohio primary research materials. This is only the initial step in building the data base.

Most lawyers are anxious to have some federal legal material placed in the data base as soon as possible. Federal materials undoubtedly will be an early step in increasing the data base, beginning perhaps with the Internal Revenue Code and Regulations.

The Ultimate Goal— a Nationwide System

O.B.A.R. and Mead Data Central are looking ultimately to a nationwide system wherein all state and federal law will be available. Negotiations are already well under way with several other state bar associations who wish to establish computerized research systems. As those states build data bases of their state law, the data will be made reciprocally available. It used to

seem that this goal was as much as ten years away, but the technology has progressed more rapidly over the past year than anyone anticipated. The day may be near when a lawyer anywhere in the United States can reach the law of any state or any part of the federal law by using a communications terminal in his office to command a computer.

How can a lawyer use this computer system? In the twenty Ohio law offices and law libraries where the system is now being used, experience is demonstrating that the practical purposes to which the O.B.A.R. system can be put are more numerous and varied than those of us who initiated the program anticipated. It is being used in the preparation of briefs and memoranda, especially in the preparation of trial briefs. It is being used during the course of trials by lawyers who want quick answers to research problems. A few attorneys have even explained to clients how the computer is used and then have conducted a computer search in the presence of clients to obtain cases and statutes necessary to advise those clients. It is being used in the preparation of law journal articles and lawbooks. It is being used inside some of the larger firms to prepare intraoffice manuals on the handling of certain matters.



The most recent development in the O.B.A.R. system features the use of this high-speed communications equipment. The lawyer commands the computer by typing on the keyboard, and the computer displays case law material on the face of the television picture tube in the center of the photograph. When the lawyer wishes to preserve a copy of anything that appears on the face of the tube, he presses a button, and a copy of whatever is on the tube is printed for him by the machine shown at the right in the photograph.

The Ohio Attorney General was the first O.B.A.R. subscriber. Other governmental offices at the state and local level are becoming increasingly involved in the program.

In all of the offices and libraries in which O.B.A.R. terminals have been installed, after an initial period of experimentation with the computer, the personnel have settled down to practical day-to-day use of the computer research system. Their experiences have not been uniformly successful. Some of these installations are a year old, and the lawyers in those offices were using the system when it was still in a developmental stage. Effective use of the computer requires precision of legal terminology and logical organization of thought. There is definitely a skill to be developed in the use of the computer, and not every lawyer develops it as readily as any other.

On the whole, O.B.A.R. subscribers are enthusiastic about the system. O.B.A.R. has not been without customers who were from time to time dissatisfied, but of the twenty installations that have been made, only one of them has elected to terminate the service.

It has been our wish to have installa-

tions in medium-sized law offices and in law libraries where lawyers who are not members of large firms may have access to them. The installations in the smaller offices and in the county law libraries have demonstrated that the system can be used effectively by members of small firms and by the single practitioner.

It was never intended that the O.B.A.R. system should be for Ohio lawyers only. The Ohio State Bar Association committed itself to the initial work of building a system that would be of value to all lawyers. Mead Data Central, Inc. is committed to the building of a national system. Together we look forward to the expansion of the system into all the states.

How can this be accomplished? It is the firm belief of the Ohio State Bar Association that bar associations are the proper sponsoring agencies. We have already stated the reasons why the association decided to sponsor the development of the O.B.A.R. system. If a state bar association elects to involve itself in this type of program, it should form the necessary study committee now. The project will require a commitment on the part of the bar association of a substantial amount of money and effort. Since this is a new kind of

project with which lawyers are generally not familiar, an educational period is necessary. Even though a state bar association does not anticipate seeking to establish a computerized research system within the next year or so, now is the time to begin the preliminary planning and educational work.

The Ohio State Bar Association, through Ohio Bar Automated Research, is prepared to share its experience with other state bar associations. O.B.A.R. has received hundreds of inquiries, has visited many states as well as the meetings of the American Bar Association and has received delegations from the bars of many states. Mead Data Central, Inc. is also anxious to co-operate with any state which is interested in initiating a computerized research project.

Those of us who have worked for a long time with computerized legal research and who are aware of its limitations as well as its promise are enthusiastic and confident about it. We believe that by enabling lawyers to do their research more efficiently and economically, the computer can be a significantly useful tool in the practice of the law and a benefit not only to the lawyer but also to his clients and ultimately to our society.

Medical Institute Schedule for March

THE THIRD Medical Institute for Attorneys, sponsored by the Law Center and the School of Medicine of the University of Miami, will be held at the Americana Hotel in Miami Beach on March 3-6, 1971.

The program is under the direction of Professor Walter H. Beckham, Jr., and the course will provide in-depth instruction to attorneys in the field of psychiatry and the law. The material, from fundamentals to more sophisticated areas, will be taught exclusively by members of the medical profession. Subjects to be examined include psychic reaction to trauma resulting from whiplash, amputation, disfigurement; predisposition to forces which generate crime; (such as drug addiction); detection of malingerers; and how psychiatry can aid in the selection of a jury.

For further information or registration, write Third Medical Institute for Attorneys, University of Miami Law Center, P. O. Box 8087, Coral Gables, Florida 33124.

Is Free

by Harry L. Br

The Supreme
the breadth of
relations situat
the establishm
standard und
more restrict
exercise of fr

copy & think

ships awarded into the r by the "w element, c tern for c

The p in determ and Type an AALL

The r applicant; average r applicant grant reci applicant activities i this categ one meeti

Term applicants ships. Gra librarians almost twi

The le pients in t recipient to reversed ir

The ap and recipie years of ex grants or :

Computerized information work; Social sciences; Law

DESCRIPTORS: History; U.S.A.; Services; Reader services; Information work;

WESTLAW

ABSTRACT: Legal research by computer was unknown 20 years ago, but is now commonplace and a necessity. Provides a brief history of computer-assisted legal research which traces the development of the approach from its beginnings in the Ohio Bar Automated Research (OBAR) project of the Ohio State Bar Association to Mead Data Central's LEXIS and West Publishing Company's

amount of subjectivity entered committee member, as evidenced (re 1). Despite this subjective s appear to have set the pat- ents.

er of AALL was important grants, Type I Scholarships, average recipient had been than the average applicant. ants and Type I Scholarship s. In the grant category, the nal association; the average ig to a chapter. The average ommittee; the average grant hip applicant's professional L: the average recipient in association and had attended

fferentiating factor between rships, and Type II Scholar- years' longer service as law ole. Type I recipients served . The average Type II reci- re average Type II applicant. between applicants and reci-

175881 86-3588 Library and Information Science Abst

<DIALOG File 61>

TITLE: A brief history of computer-assisted legal re

AUTHOR(S): Harrington, William G.

JOURNAL: Law Library Journal

SOURCE: 77 (3) (1984-1985, 543-556. 4 refs

LANGUAGES: English

TB added this to the References. Did CB incorporate it into Chap. 8?

What did they do? Pat. & Think

CHAPT. 8

Put this in References incorporate into text?

XC DASH COEP

XC Mead WESTLAW

A Brief History of Computer-Assisted Legal Research*

1984-85

William G. Harrington**

Legal research by computer was unknown twenty years ago. It is now commonplace, even a necessity. This brief personal history of computer-assisted legal research, written by one of its founding fathers, traces the development of the approach from its beginnings in the OBAR project of the Ohio State Bar Association.

Introduction

First, a matter of terminology. The correct term is computer-assisted legal research, not computerized legal research. Does it make any difference? The lawyers who conceived of and developed the first practical computer-assisted legal research service thought it did. Because they considered themselves the creators of something new and important that might effect a revolution in the practice of law and the administration of justice, they thought it their responsibility to create the right terminology to go with it. The term "computerized" implied that the computer would take over the whole function, do it all; whereas "computer-assisted" suggested what they believed was true: that the computer would be a handy helper for the lawyer's intellect, not a substitute for it.

Looking back at the original technology, it now seems primitive, something from a distant past. Remembering the way many lawyers and librarians first reacted to the advent of computer-assisted legal research, it is hard to identify such Luddites with the twentieth century, much less with the past ten or fifteen years. Today a LEXIS or WESTLAW terminal, or both, can be found in nearly every major law office and law library. Still, computer-assisted legal research is less than twenty years old. The history is short in terms of time, but long in terms of achievement.

How It All Began

It is not fanciful to say that the history of computer-assisted legal research began with the invention of cuneiform writing. Computerized information management, after all, is simply a late development in the ancient process

* © William G. Harrington, 1985.
 ** Mr. Harrington is an attorney in Cos Cob, Connecticut.

of recording and later retrieving information, and computer-assisted legal research is only one manifestation of information-management technology. The bells and whistles have been arranged to suit the needs of legal research, but for the most part, the basic hardware and software is shared with the whole world of information management.

This is not, however, a history of the whole concept of using the computer as a means of managing large bodies of textual information. Let us go directly to specifics.

By the early 1960s, there was much talk in the legal profession about the geometric rate of increase in the amount of material a lawyer had to scan to do a comprehensive job of legal research. Simply said, there was more law. Lawyers had begun to see legal research as becoming an almost intolerable burden. What could be done about it? What about those huge, mysterious, and temperamental machines, computers? Could they somehow be programmed to do some of the work of legal research?

Committees were formed. Seminars were held. Panels were organized. Talk, talk, talk. And papers, learned papers. Progress? No. None.

The Horthy Project

At the University of Pittsburgh, however, Professor John Horthy created an electronic library of the public health statutes of all fifty states. University employees, working at card-punch machines, converted those statutes into a digital form that a computer could read. The codes on the cards then were imposed on magnetic tape. The university computer could scan all those statutes and identify every one that used terms the researcher had included in the search command. By 1965, Professor Horthy's team had begun to put some United States Supreme Court cases and Pennsylvania cases on tape to demonstrate how the system could cope with longer documents.

To a limited extent, the Horthy group would accept search requests from outside lawyers. The search was communicated to the group by telephone or mail; it was run overnight, and the results were reported to the lawyer by telephone or mail the next day.

This was not just talk. This was the computer at work, beginning to do the kind of thing that lawyers were hoping it could do. The initial Horthy system was, by today's standards, extremely primitive. Professor John Horthy and his group deserve major credit, however, for demonstrating the feasibility of the concept of using the digital computer for legal research.

Origins of the Ohio Project

Contemporaneously, another organization was passing from the talking stage to the point where it was ready to commit resources to the building

of a practical, working system. That organization was the Ohio State Bar Association.

The Ohio Legal Center Institute, under the directorship of James L. Young, already had done some preliminary exploration of the concept and technology and had been in contact with Professor Horthy. Leading members of the bar association had heard Professor Horthy speak at the annual dinner of the Ohio Bar Foundation in November 1965 and were intrigued.

The president of the Ohio State Bar Association for 1965-66 was James F. Preston, Jr., a senior partner in the Cleveland firm of Squire, Sanders & Dempsey. Preston was determined that his presidency should be remembered for the initiation of a computer-assisted legal research service for Ohio lawyers.

In November of 1965, William G. Harrington¹ became research counsel to the Ohio State Bar Association. He heard Professor Horthy's talk and learned of Preston's commitment. He volunteered to take charge of the bar association's computer project, and for the next five years he would devote most of his time to the Ohio project.

Beginning early in 1966, Harrington began an examination of the available hardware and software that might be used for a system of computer-assisted legal research. He went to Pittsburgh to meet with Professor Horthy and to work with the Horthy system. He contacted various hardware and software suppliers and invited them to demonstrate their wares. A large number of suppliers came forward with extremely varied offerings, none of which could be evaluated rationally until the projected service had been defined. Until 1966 the idea of computer-assisted legal research had remained vague. Lawyers wanted it, but were not sure exactly *what* they wanted, partly because they had no idea of what was possible. The Ohio group set to work to write a definition.

This definition was the most important achievement of the Ohio project's first year—perhaps of the project's entire five years. The definition written by the Ohio group more than eighteen years ago is the basic definition of LEXIS and WESTLAW to this day.

The Basic Definition

In a few words, the Ohio group defined what it wanted as a nonindexed, full-text, on-line, interactive, computer-assisted legal research service.

The Horthy system was nonindexed. It operated by the application of Boolean-logic specifications to the text of legal materials. The distinction is by now well known and probably does not need a full explanation here.

1. At this point I must ask the indulgence of readers. I became deeply involved in computer-assisted legal research from this point, and I must mention myself often. I will use the third person.

Suffice it to say that the Ohio group wanted to free the lawyers from the constraints of indexing. Boolean-logic searching, in effect, would allow each researcher to create an ad hoc index specific to the problem at hand. It is amusing today to recall the furor this proposition engendered when it was released for discussion. Self-annointed experts pronounced a nonindexed system a major error. Many law librarians were appalled to learn that the new concept of computer-assisted research would operate free of their dearly beloved, elaborate structures of indexes and digests. Some of them were intemperate in their scorn.

The next element of the definition was that the system was to search in the full text of legal materials, not in headnotes or digests. This, once again, was highly controversial. Some of the many objections included: that searching in full text would be a prohibitively expensive way of using the computer, that full-text searches would be too broad and never could be made sufficiently specific, that lawyers educated in the traditional index-based forms of legal research never would learn the new system, and that generations of scholarship were being thrown away.

"On-line" meant, of course, that the work was to be done by researchers in direct and immediate contact with the computer, not by intermediaries accumulating a number of searches and doing them at specified hours in a batch-processing mode. In short, the definition required what might be called "live" research. This time, objections came from the technicians, who pronounced on-line research in large full-text data bases impossible.

"Interactivity" meant that the researcher could conduct a dialog with the computer—transmitting a search, scanning the results or a part of the results, and amending the search as the results might suggest. Interactivity was to overcome the objection that full-text searching invariably would be too broad. If a search proved too broad, the researcher could narrow it by additional words and logic specifications.²

Perhaps it should be mentioned that the Ohio definition was reached with minimal interaction with other groups or their committees. The Ohio group struck out on an entirely independent quest, mostly because they were impatient with the endless reports and speeches being generated for ABA and other meetings. Harrington wrote the definition, presented it to the Ohio State Bar Association Executive Committee, and it was adopted. No one had any real sense of how great would be its ultimate impact.

Having defined what it wanted, the Ohio group insisted on this defini-

2. WESTLAW is not to this day a completely interactive search system. A researcher cannot add to a standing search, as he can with LEXIS. When complex searches ran several minutes, the distinction was vital; now it is almost insignificant since virtually every WESTLAW search is completed in seconds. The researcher dissatisfied with a search can recall it to the screen, change it as he or she wishes, and retransmit it. The speed of the present WESTLAW system has created a sort of de facto interactivity.

tion. This frightened off many hardware and software vendors and reduced to a few the companies that offered to undertake to build a service so defined.

Data Corporation

Originally, the Ohio group had hoped to enter into arrangements whereby the Horty system could be improved, expanded, and made the basis for the Ohio service. In time, however, it became apparent that this could not be done, and the group undertook an investigation of hardware and software to find an alternative. By December 1966, only Central Media Bureau, a New York company, remained in contention. The bar association opened negotiations for a contract whereby the bar would fund the software development necessary to build the service as defined.

When this contract was in draft form and probably within two weeks of being signed, Francis L. Dale, president of the Ohio State Bar Association, received a call from William F. Gorog, president of Data Corporation. Gorog had read an article in the *Wall Street Journal* about the Ohio project and believed his company could build the required system. Dale suggested Gorog contact Harrington.

Early in January 1967, Harrington travelled (most reluctantly) to Beaver Creek, a suburb of Dayton, to see a demonstration of yet another system. This one was called (Data) Central, and it was a nonindexed, full-text, on-line, interactive system that had been developed by Data Corporation for the Air Force, to search huge files of procurement contracts. An hour's demonstration was enough to convince Harrington that (Data) Central was by far the most advanced and sophisticated system he had seen. He returned to Columbus and persuaded the bar association to suspend negotiations with Central Media Bureau and enter into a discussion with Data Corporation. Those discussions, carried on over a period of months, resulted ultimately in the creation of OBAR—Ohio Bar Automated Research.

Developments under OBAR

Although the Ohio State Bar Association was the sponsoring organization for a computer-assisted legal research system for Ohio lawyers, the association was without the funds to build a system. It had been understood from the beginning that when a project had been defined and a capable partner identified, the association would have to create a subsidiary organization to raise the necessary funds and administer the program on the association's behalf. When it became apparent in the spring of 1967 that Data Corporation was the partner the association had been looking for, the needed vehicle had to be created.

Ohio Bar Automated Research (OBAR) was a not-for-profit corporation organized under the Ohio corporation code. The executive committee

of the bar association was, ex officio, the board of trustees of OBAR. James F. Preston, Jr., was elected president and William G. Harrington executive vice-president. The contract for the development of the system (which also would be called OBAR) was entered into between Data Corporation and OBAR. OBAR raised funds by selling a bond issue to Ohio lawyers. Subsequently, it also would borrow funds on notes, chiefly from Squire, Sanders & Dempsey. In total, it raised and committed approximately a quarter of a million dollars. The amount turned out to be ludicrously inadequate, but this first quarter of a million dollars was the seed money that changed a nebulous concept into a reality that later would attract many millions of dollars of investment capital.

The original contract between OBAR and Data Corporation provided, in substance, that:

1. Data Corporation would modify its (Data) Central software to make it more suitable for legal research. OBAR would pay a fee for such modification and would own the exclusive right to use the resulting software for legal research in Ohio or elsewhere.
2. Data Corporation would convert a body of Ohio case law, plus the Ohio statutes, and make that data base available for computer-assisted research. OBAR would pay the cost of conversion and would own the data base.
3. Data Corporation would run the operating system, providing all the necessary hardware, software, communications, and personnel to offer and sustain a computer-assisted legal research service for Ohio lawyers.
4. OBAR would market the service.
5. Sales revenues would be divided between OBAR and Data Corporation.

The Data Corporation software had to be modified in many ways to make it suitable for legal research. To begin with, it was capable of Boolean searches but only on an AND, OR, and NOT basis; there was no proximity connector. OBAR regarded proximity searching as essential. (It was at this time, incidentally, that the decision was made to write the proximity logic on the basis of numbers of words, not sentences and paragraphs. That decision was made by the lawyers, not the programmers.) Also, the Data Corporation noise-word list, though it was standard for the industry, included such words as "will" (as a form of the verb "to be") and was unsuitable for legal research. A new list had to be defined. Data (Central) communicated on IBM printing terminals, and OBAR was to be teletype-compatible.

These are only examples of the many design changes that had to be made. What is more, converting hundreds of volumes of Ohio case law to digital form presented many problems. Two years were spent meeting the challenges of making Data (Central) a practical legal-research system.

During the years 1967-70, while OBAR was being developed and tested, visitors from all over the United States and from many foreign countries

travelled to Ohio to see it. Prominent among these were two men who subsequently would play important roles in making LEXIS a nationwide service—Thomas Plowden-Wardlaw of New York and Judge David Dixon of Missouri. Both of them became enthusiasts for computer-assisted legal research and returned to their state bar associations with optimistic reports. Many other visitors came, including delegations from France, Belgium, Germany, and Scandinavia.

Preston and Harrington travelled constantly in Ohio, selling the OBAR bonds and, perhaps more importantly, encouraging Ohio law firms to become the initial subscribers to the OBAR service. Squire, Sanders & Dempsey was the first subscriber, and a substantial number of other firms subscribed as well. They became the guinea pigs, investing time and money in what was still a primitive system. Their experience with OBAR—much of it negative—became an invaluable learning resource for those who shortly would set to work to make major improvements to the system. Other members of the Ohio group travelled to other states, speaking to bar groups and reporting on OBAR. Twice, Harrington published reports of the experiment in the *American Bar Association Journal*.³

By the middle of 1969, it was possible to evaluate the OBAR experiment. It was a mixed success. On the positive side, OBAR had demonstrated clearly the feasibility of computer-assisted legal research. It also had demonstrated something that its sponsors had not foreseen entirely: that computer-assisted legal research would be not just faster and more efficient but would be *better* research, more comprehensive, regularly finding cases that even the most careful conventional research overlooked.

On the negative side, the computer system and its communications were unreliable, the search protocol was less than transparent, there was an unacceptable degradation in response time when more than a few lawyers were doing research at the same time, and the data base was too small for much practical research. It was apparent that these problems could be solved. Their solution, however, would require more money than OBAR had available or

3. Harrington, *Computers and Legal Research*, 56 A.B.A.J. 1145 (1970); Harrington, *What's Happening in Computer-Assisted Legal Research?*, 60 A.B.A.J. 924 (1974).

Although almost everything in those articles is by now outdated, the substance of another article published by a member of the OBAR staff remains valid and often has returned to haunt the proprietors of computer-assisted legal research systems. Diana Fitch McCabe, an assistant to Harrington in 1970, published an article critical of OBAR. McCabe, *Automated Legal Research*, 54 JUDICATURE 283 (1971). She wrote that the system was failing conspicuously to meet the promise some of its founders had held for it: that computer-assisted legal research would give solo practitioners and small firms as much research power as large firms had and, therefore, would benefit lower-income and middle-class clients. Instead, she wrote, OBAR was developing into a service only big firms could afford. This article by Mrs. McCabe (now Mrs. William G. Harrington) still is cited by those who remain disappointed with the social impact of computer-assisted legal research.

could raise, and probably more than Data Corporation could commit. The OBAR experiment was in danger of failure.

Within months, the Mead Corporation would commit the capital needed to save OBAR and create LEXIS. Before turning to that element of the story, it should be noted that the OBAR experiment was not the only experiment in computer-assisted legal research going on in the world. There were others in Canada, Italy, and in the United States. Unhappily, one purported service, widely promoted in the United States in these years, was an outright fraud.

The Origins of Mead Data Central

In the spring of 1969, the Mead Corporation acquired Data Corporation as a wholly owned subsidiary. It did not acquire Data Corporation to become a partner in the OBAR experiment, but to acquire other Data Corporation technology more closely related to Mead's traditional lines of business in forest products, paper, and printing. Indeed, it has been said that Mead was not even aware that Data Corporation was committed by contract to an effort to build a computer-assisted legal research service. Nevertheless, Mead rescued the OBAR experiment from imminent financial failure and in time invested the tens of millions of dollars the development of a nationwide system for computer-assisted legal research would require.

In August 1969, Mead contracted with Arthur D. Little (ADL) to undertake a study of the potential market for computer-assisted legal research. Mead wanted to know if there was a sufficient market to justify a major investment. Mead also wanted to know how much further development OBAR would require to make it a marketable system and how much money that development would cost.

H. Donald Wilson, an ADL partner, was sent to Ohio as head of a consulting team. Wilson, a lawyer and former director of the Peace Corps in Ethiopia, brought Edward J. Gottsman as a consultant in system design, and later, seeing the need for an actively practicing New York lawyer on the team, he added Jerome S. Rubin. The ADL study took six months. In February 1970, the team reported that its market survey indicated that computer-assisted legal research was potentially a profitable business, but making a marketable business on the basis of the OBAR experiment would require extensive redevelopment and a major investment. The ADL team also offered a business plan.

Mead accepted the recommendations of the ADL team. It separated the legal research applications of (Data) Central from all other existing and potential applications. It formed a new subsidiary, Mead Data Central (MDC), to develop and market a nationwide legal research service and entered into a contract with Wilson and Rubin for management services for the new cor-

poration. H. Donald Wilson became the first president of MDC, and Rubin became executive vice-president and general counsel. Many Data Corporation officers and employees were transferred to MDC.

During the years 1970-72, MDC made major improvements to OBAR. MDC had to make OBAR a practical, working service that lawyers would use, plus a potentially profit-making business that would justify further investment by Mead. For the most part, MDC provided technical and business expertise, and the Ohio lawyers who had created OBAR continued to speak for the profession. It should be emphasized that the basic definition of the system was never altered: it would remain a nonindexed, full-text, on-line, interactive system.

The most conspicuous change was abandonment of the printing terminals and the introduction of terminals with screens. This made the system faster and easier to use, and it also made the KWIC (key word in context) feature feasible. The first terminals used Sony color television sets for their screens, and the legal materials appeared on the screens in gaudy colors—case names in green, citations in yellow, KWIC words in red, ordinary text in white—all on a bright blue background.

Less obvious changes were equally important. The logic was made more complete and flexible, and a new system of notation was developed for it. The language with which the system communicated was revised to make it speak specifically about legal research and in more user-friendly terms. Efforts were made to eliminate the plague of communications failures. The system was made capable of working for more simultaneous users.

It is amusing today to recall that searches typically ran five minutes, often twenty or thirty minutes, and sometimes more than an hour—and still the lawyers thought the system marvelously fast. One demonstration search, run on a terminal in a hotel suite in St. Louis during an ABA convention, ran four hours! Wilson and Harrington took the interested lawyer—a partner in a major New York firm—to dinner while the search was running, and it was not finished when they returned. Still, the lawyer was impressed with the efficiency of the system, which had found a case his firm had overlooked after weeks of conventional research.

The chief designer during this period was Richard Giering of Data Corporation, who had been the chief designer of (Data) Central. William K. Thomson, also from Data Corporation, Arthur Dana, a consultant from California, and Edward J. Gottsman were other major contributors.

During this same period, OBAR as an organization gradually faded from the picture. It sold its proprietary interest in the legal research applications of (Data) Central, plus the Ohio data base, to MDC. In return, it was entitled to receive certain royalties for ten years. Since the system was not yet earning

revenues on which royalties could be paid, OBAR took advances against future royalties to enable it to pay its staff salaries and other expenses. It played an active role in the test marketing of the second-generation OBAR system in Ohio, and it assisted the MDC marketing staff in obtaining Ohio subscribers. Harrington continued to participate actively in the definition and implementation of changes in the system, and he continued to travel throughout the United States, showing the system to lawyers. As an organization, however, OBAR contributed less and less.

In February 1971, Harrington resigned as executive vice-president of OBAR and as counsel to the Ohio State Bar Association. He returned to the private practice of law and also became a consultant to Mead Data Central, which he would continue to be for thirteen years. The rest of the OBAR staff were dismissed or transferred to the association staff, and the organizational office of OBAR was moved to Cleveland. From that point, neither OBAR nor the Ohio State Bar Association made any further contribution to the development of computer-assisted legal research.

The LEXIS System

By the end of 1972, the Ohio marketing test of the second-generation OBAR had been completed, and the system was almost ready for nationwide marketing. Before it could be offered as a service to the lawyers of states other than Ohio, however, it would need a new name. The new name was LEXIS.

Although some people assume that the word "LEXIS" means "law information service" ("LEX" for law and "IS" for information service), the name is not an abbreviation or acronym. It originated with a firm of consultants in New York whose business was to suggest corporate and business names. Their theory was that names with an X or two in the middle (such as EXXON) were intriguing. Hence, LEXIS.

Two more changes are worth noting. The Sony television sets were retired as terminal monitors, and a new desktop terminal was introduced. The new LEXIS terminal featured function keys that allowed the researcher to give the computer commands with one tap, rather than two or three. Also, the keys were printed with legends appropriate to the legal research functions they performed. It was the first proprietary terminal, no good for anything but LEXIS research.⁴

4. Why proprietary terminals, incidentally? The company barely broke even on terminals, so there was no economic motive for insisting on proprietary terminals. Rather, it was because, at first, lawyers approached the terminals with fear and awkwardness, protesting that they had no idea how to type, much less how to control a computer. They called themselves technological illiterates, and MDC personnel were glad to join them in applying the appellation. Ten years would pass before MDC deemed it safe to turn lawyers loose on LEXIS with multipurpose terminals.

The second major change between OBAR II and LEXIS was the introduction of new data bases—a federal library consisting of the U.S. Code and a body of federal case law, and a federal tax library consisting of the Code, the regulations, and some cases. More state data bases, New York and Missouri, would be added shortly.

LEXIS was introduced to the world at a news conference held at the Overseas Press Club in New York in April 1973. Introduction was followed immediately by a concerted drive to sell subscriptions, principally to major New York law firms. The drive was successful, and by the fall of 1973 a few major New York firms—plus, of course, the Ohio firms that had hung in through thick and thin—were doing legal research with LEXIS.

From this point forward, the history of LEXIS was one of constant progress. New data bases were added. The software was improved. The amount of computer power committed to the system was increased constantly to cope with the growing demand. MDC opened regional offices throughout the United States. The number of subscribers and, more importantly, the amount of research done with LEXIS increased each year.

Beginning in 1980, LEXIS subscribers were given access to NEXIS, a data base of news and business information that could be searched on the same terminals and with the same protocol. NEXIS has expanded into what is probably the world's largest full-text data base of news and business information, offering research in a wide variety of publications, ranging from leading newspapers and magazines to wire services and newsletters.

During almost all of these years of progress, Jerome S. Rubin was president of Mead Data Central. He had replaced H. Donald Wilson in that position in 1971. Under Rubin's leadership, MDC turned the basic ideas inherited from OBAR into an actual working service and established it in the offices of scores of thousands of lawyers throughout the United States. In September 1981, Rubin and his principal subordinates were replaced. A new Mead management team now runs MDC from Dayton.

The Development of WESTLAW

It was not until 1973 that the management of the West Publishing Company decided to enter the market with a system of its own—WESTLAW. The first WESTLAW subscriber went on-line in April 1975.

The initial WESTLAW system was primitive indeed. The software was balky and unreliable. Communication was by expensive leased lines. Worst of all, the data base consisted solely of West headnotes. If the OBAR and LEXIS experience had not proved the superiority of full-text searching over headnote or digest searching, the early WESTLAW experience certainly did.

In December 1976, the West management decided to begin building a full-text data base. The WESTLAW data base would consist of both the full

text of judicial opinions *and* the West headnotes and other West editorial features. The idea was to give the researcher the best of both worlds—the comprehensiveness of full-text research plus the research advantages afforded by the editorial features of the West National Reporter System.

The theory was good, but WESTLAW initially remained sadly deficient in execution, owing chiefly to the weaknesses of the software and difficulties of communication. Searches were slow. The sequence in which retrieved cases were displayed was mysterious. Searches were interrupted frequently by hardware problems or difficulties with the communications networks. From 1979 on, West undertook an aggressive program of data-base enhancement, creating new topical libraries of federal law, expanding state libraries backward chronologically, and entering contracts with other publishers, including Shepard's, so as to offer research in materials outside the West family of publications. The value of all this continued to be obscured, however, by the hardware, software, and communications problems.

Beginning in 1980, West began a thorough redesign of WESTLAW. Features were added as they were developed. One by one, the deficiencies were remedied. Search time diminished until most searches were completed in a few seconds. The reliability of the overall system was improved, so that interruptions became rare. New search features were added. Retrieved cases began to appear in reverse-chronological order (with the old order retained as an option). A LEXIS-style logic was offered as an option, so that lawyers originally trained on LEXIS easily could make the transition to WESTLAW—or, better still, readily could switch back and forth from one to the other as necessary. By 1983 or 1984, virtually all the software problems had been solved, and WESTLAW was a highly sophisticated, user-friendly research service.

West took the lead in offering its service on nonproprietary terminals. Although it introduced the WALT (West Automated Law Terminal) in 1982, it made WESTLAW available on virtually all minicomputers, microcomputers, personal computers, and mainframes.

In 1984, WESTLAW made MCI Mail available on its WALT terminals. This means that any WESTLAW subscriber with a WALT can send a message electronically, and at minimal cost, to any other subscriber with such a terminal, as well as to other MCI Mail subscribers. Through MCI Mail, WESTLAW subscribers also have access to Dow Jones News/Retrieval, an extensive electronic library of market and business news and other information.

WESTLAW, as much as LEXIS, is a beneficiary of the experience gained through the OBAR experiment. Although West elected at first to try a different approach, its computer-assisted legal research system today may be defined in the terms chosen by the small group of Ohio lawyers who created OBAR. LEXIS is the direct descendant of OBAR. WESTLAW is not, but

by experimenting with alternative approaches, WESTLAW proved once again the validity of the OBAR definition.

It is, of course, to the benefit of the law profession that there are competing computer-assisted legal research services. Each of the two major competing systems, LEXIS and WESTLAW, offers advantages unique to itself. We will not attempt here to compare their many features. We might point out, however, that many law firms and law libraries today subscribe to both services and have developed an informed sense of when to use each.

The Future of Computer-Assisted Legal Research

From time to time someone is foolhardy enough to attempt to predict the future of information-management technology and its likely impact. Everyone who does it winds up eating his words. We have all eaten a few, probably, and none of us seems to die of it, so here are a few guesses.

Within a few years, all lawyers will have on their desks some form of computer or terminal that will give them access to the growing variety of services that will become commonplace and essential. Computer-assisted legal research services as we now know them have a limited life expectancy. Within a few years, lawyers will no longer be willing to use MDC's or West's big mainframes as their research computers. Their in-office computers will have the power and the memory capacity to perform almost all the functions the big mainframes now perform.

West and Mead Data Central will still offer an essential service, however—that of gathering information and putting it in such form that lawyers can find it and use it. They will be in the business of gathering cases, statutes, regulations, and so forth on a timely basis and sending them to the lawyers in electronic form. West will continue to do its editorial work on these materials and to facilitate finding, and MDC may decide to add finding helps to its data bases. These companies, in short, will be publishers—electronic publishers.

Electronic libraries will continue to expand, and there will be more and cheaper ways of using them. Print publication will not disappear, but electronic publishing will be the principal way the law profession obtains current information and digs through the world's archives.

Someday before long the computer in your office may be wakened at 2:00 a.m. by a signal from a satellite. Down from the satellite will come a stream of information, which your computer will receive and file in the appropriate electronic cubbyholes in its memory. When you arrive at your office in the morning, your computer will have prepared a daily digest for you of information selected according to instructions you have left with the computer. When you want to do research, you will use your own computer to scan the information in its own memory, information that is updated daily and perhaps even more often.

What happens to libraries and librarians? They become more important. The function of a librarian, after all, is not just to act as the custodian of an information warehouse; it is to make information useful, which of course means being able to call it out when it is needed. Already there are professionals who specialize in helping people to select the right electronic library and retrieve information from it. These specialists know what each library contains and how to use the various search protocols to retrieve it. With more and more information being created and stored, finding it and bringing it out becomes an increasingly important speciality. Rather than making librarians obsolete, the development of computer-assisted legal research makes librarians even more valuable.

Planning a Publication Venture: The Development of *Legal Information Management Index**

Elyse H. Fox**

Ms. Fox describes the development of Legal Information Management Index from concept to reality. She examines editorial and business concerns and offers practical advice on how to begin a new publication.

*Legal Information Management Index (LIMI) grew out of my own information needs as a law library consultant. During several consulting jobs I needed an index to literature relating to law librarianship and legal information management. Nothing existed. Although *Current Law Index (CLI)*, *Legal Resource Index (LRI)*, and *Index to Legal Periodicals (ILP)* index many legal periodicals, and *Library Literature* indexes many library periodicals no one source specifically indexed law library literature. The information I sought either was scattered among various indexes or was not indexed at all.*

*After speaking to other librarians about the need for such an index and researching the work and financial risk involved, I decided to edit and publish the index myself. After one year of planning, I began indexing in January 1984. I edit *LIMI*; my consulting company publishes it.*

*This article describes the development of *LIMI* from initial idea to actual publication, with attention given to the editorial and business issues encountered. It can be used as a guide for anyone interested in starting publication. It concludes with a description of the responsibilities and rewards of a publisher/editor.*

I. The Idea

A. *Defining Your Publication and Determining Who Your Potential Subscribers Will Be*

In undertaking a publication venture, the first step is to define the publication. What does it do? Ideas, however wonderful they may be, are only ideas

* © Elyse H. Fox, 1985. This article is based on the author's presentation at the panel discussion "Planning a Publishing Venture," 77th Annual Meeting of the American Association of Law Librarians, July 2, 1984, in San Diego, California.

** President, Fox Information Consultants, Inc. Ms. Fox is a law library consultant in Boston and editor/publisher of *Legal Information Management Index*.

CHARLES BOURNE AND ASSOCIATES

1619 SANTA CRUZ AVENUE
MENLO PARK, CALIFORNIA 94025

July 2, 1995

11

TEL. (415) 322-7101

Prof. Robert Oakley
Director, Law Library
Law Center
EB Williams Library
Georgetown University
111 G. Street, N.W.
Washington, DC 20001-1417

Dear Bob:

Now that I've retired from DIALOG, I am able to spend more time working with Trudi Bellardo, formerly of Catholic University and SLA, to write a book for Academic Press on the early (pre-1977) history of the online search services.

The Mead and Westlaw story will be a part of that text, and at this time we are actively reviewing the final text of that story. Because you were so closely involved as a participant, witness and reporter of those activities in those early times, we'd appreciate whatever help you can provide with our final review. We've gone about as far as we can go from the published material that we've been able to get our hands on. Now we need to have the current draft checked by the people who were on the scene at that time -- to correct the factual mistakes, fill in some of the missing pieces, and to provide additional comments as appropriate. We'd also appreciate any stories or anecdotes that we can repeat for our readers.

With that introduction, I invite you to review the attached draft text of the Data Corporation, Mead, and Westlaw activities for this pre-77 history. I've also enclosed some text to describe the JURIS and LITE history; I hope that you can review that material also.

You'll notice that some of the text is in boldface. That's just a temporary artifice to permit me to keep track of my own text, so that I can keep track of where things came from. You'll also see some notes passed between Trudi and me as part of the dynamic text-building process. We want to get your comments early enough in the final editing stage to permit us to make use of them.

If you have any questions or comments, please give me a call. Just annotate and return the draft if that's easier for you. I look forward to hearing from you.

Best regards,



Charles P. Bourne

Enclosure - Chapter 8 (3/11/95 edition)
Mead, Westlaw, LITE and JURIS text and cites from Chapter 10 (5/20/95 edition)

P.S. Do you happen to have an address for Jerry Rubin, Bob Bennett, Dick Harrington, Dick Giering or any of the original Mead staffers? Or George Kondos?

xc: Trudi Bellardo (letter only)

family\bourne95.not: September 17, 1995, 11:44 PM
Modified: September 17, 1995, 11:44 PM
Printed: September 25, 1995, 4:40 PM

1 ^{Chpt. 5} COSATI text and supporting cites *from Data Gathering?*

- 1.1 First paragraph: "disseminating scientific and technical information ..." dealt primarily with the use of form 1498 (DD) ^{COSATI} _{more} form, NASA form and other departmental forms of similar or identical nature).
- 1.2 Second paragraph: sentence containing Landau reference: As I remember it, Battelle was also invited to participate in the evaluation. They declined. Note they made their own movie.
- 1.3 Second paragraph - even though the information was published in the 1969 ASIS proceedings, the work was accomplished - as I remember it - some time (maybe the year) before. This goes along with the RKS notes referenced on page five.
- 1.4 It should be noted that prior to 1969, the names DIALOG and Data Central were not in general use. Only the corporate names - Lockheed and Data Corporation were used.
- 1.5 Page 74, "... two of the systems (____ and ____)" ...". If my memory serves me correctly, the two were Lockheed and Data. In answer to your question in the CB Note: I believe the demo was later, in 1969 or 1970.
- 1.6 Next paragraph, question note: I believe the Noreen Welch/Mitre report was that issued officially in August, 1968, but it was unofficially distributed in spring, 68 to the COSATI members and to the involved members for comment. After issue, I believe it was available from NTIS.
- 1.7 Page 75, bottom paragraph: I believe CCA also participated. Battelle partially participated by using their own data base of library collections (see previous paragraph) and some dictionary definitions.
- 1.8 Page 76, top: I don't know when George Tressel did all of the filming, but do remember that the film had four vendors: Battelle, CCA, Data and Lockheed.

2 Chapter Eight - Data Corporation ...

2.1 Page 6, bottom: The initial computerized system for RECON CENTRAL

paragraph, the late 1967 contract was for a feasibility test and required the loading of the 50 million character data base. Subsequent amendments to the contract (subsequent to feasibility being established) called for the online service, etc.

Charlie: you might want to consider contacting Bill Harrington (LEXIS and/or Don Wilson might give you information on how to contact him) to get OBAR's view of the picture at that time. This might include the answer to what other firms made presentations to OBAR at that time.

-
- 2.7 Page 12, top (and bottom of page 11): OBAR: a salient point you might wish to include, although it may not be germane, is that in Ohio and many other states (at least at that time) the copyright to the printed court decision publications was in the hands of the state bar association.

Note on top paragraph: The modifications "deemed necessary" were all in the original functional-item list discussed earlier concerning the movement from the RECON CENTRAL breadboard to the "full production" system. They were all in process of being implemented at that time (time of the subsequent modifications to the original 1967 contract - after feasibility). The modifications were to be finished prior to the contract amendments taking affect. An aside: "changing the stop word list" required that the generalized capability for having different stop word lists for different applications be finalized (see above for comment about Generalized Data Base Definition).

Note as middle paragraph: While the contract was substantially as stated in the paragraph, subsequent amendments and modifications essentially nullified all of the elements. This is especially true about exclusivity, OBAR paying for and owning the data base, and the division of revenue.

Last sentence and note - bottom of page 12: While it is true that GOROG sought out the Ohio Bar Association, it has been the OBAR contention that, since they had a "comparative study" (especially vs. Horthy's ASPEN) they sought out Data Corporation. Whether Preston's opinion is valid or not is moot. Whether the subsequent ADL study would have been so emphatically in favor of the legal research market or not, or indeed if an ADL study could have been afforded or not are all open questions. I agree that the sentence needs to be amplified to clarify the apparent conflict. There were a number of other applications available (as is seen later in the text) that were available to Data Corporation as it was seeking customers for its retrieval software.

copy to [unclear]

x c Data Corp
PIA
CIRC
RECON CENTRAL
HARTY
BERN
NORTHWESTERN
M. K. AD

To: History File

From: Charles Bourne

Re: Notes of 20 October 95 Menlo Park Meeting with Dick Giering

Pre-Data Corporation Activity. In 1965, Giering was an Army captain, working at the Defense Intelligence Agency (DIA) as Chief of a Military Capabilities Section, ADP Systems Center, with an assignment to develop a Defense Ground Order of Battle System for the Army (an inventory of enemy ground forces-- numbers, strength, location--for a designated geographic area), making use of data processing equipment and the Formatted File System (FFS). He had, received an early training in data processing, including a degree from the Systems Engineering Department of the University of Arizona.

The use of FFS required that a large number of codes would have to be used in the operation of the system (e.g. a Russian Tiger tank would have to be entered from an authority code list as a code such as V-127). When the design was finished and published, Giering concluded that such a system that operationally required large code books and authority files would not work in field use, and that what was needed was a means to search the text of situation reports ("sit-reps") and action reports from the front. He looked for, and located information about a research project at Northwestern University that was sponsored by the Recon Laboratory at WPAFB, that had developed a set of programs for the IBM 7094 to do batch searching of text that was stored on computer tape. He called the WPAFB project monitors requested more information about the project, and found that the project had been completed, and that the programs (BIDAP--Bibliographic Data Processor) had been filed away. He arranged to get a copy of the programs out of the warehouse and then started to experiment with them on an IBM 7094 computer at DIA.

Giering's first experiment was with airborne photo reconnaissance analysis reports. These reports were essentially narrative comments by a photo interpreter about a single photo image (e.g. "there is work underway to lengthen the runway."), and each photo image had its own separate printed report. Intelligence analysts regularly received large stacks of those printed reports for review. Giering proposed to replace that practice with on-demand searches of the narrative text itself. Using sample queries for topics of current interests, he demonstrated that approach to one of the Army intelligence analysts at DIA, and found immediate acceptance of the idea. And in one of those accidents of historical coincidence, the Air Force intelligence analyst at the adjacent desk overheard the conversation, jumped in, and arranged for this approach to be used with some current Air Force work at WPAFB. That work was the Recon Laboratory activity. While still on active duty with DIA, Giering worked to help Data Corporation install the BIDAP programs on the RECON CENTRAL computer facility for use by Air Force personnel. It turned out that DIA was coincidentally funding the CIRC/COLEX/CIRCOL activity at WPAFB, and in conjunction with that activity, had installed a computer terminal at DIA for use of the CIRCOL system. Giering made use of this CIRCOL terminal at DIA to work with the BIDAP programs that were now being operated at RECON CENTRAL.

The SDC CIRCOL system, and the beginning of the Data Corporation system crossed paths at this time, primarily because two people in different branches of the Armed Services happened to have their desks located together in one government office building in Washington. The Air Force and civilian project personnel at WPAFB associated with the SDC CIRCOL and Data Corporation DATA CENTRAL activity knew of each other's existence, but not the details.

Initial Data Corporation Activities

Giering retired from the Army in early 1967 and accepted a position with Data Corporation later that year, working for Peter Vann (Vice President, and Eastern Representative) with an assignment to build a regional office (computer facility, optics work) in the Washington, D.C. area. They located office space in Arlington, Virginia (across the Potomac River from Washington, D.C.) on the second floor above a large metalwork shop. This was a shop that worked with large metal pieces, and used large stamping presses and other heavy equipment. Giering had an arrangement whereby he received advance notice of any scheduled work to do heavy stamping, or cutting of I-beams, so that he could shut down all the computers to avoid problems due to the shaking and vibration of the building and everything in it!

Data Corporation had been running the RECON CENTRAL library as a contractor-run facility for several years before Giering had his first contact with them. Their library collection contained no image collections to begin with; those were added later. They did have large collections of specification and descriptions of cameras and associated equipment, used to help in Air Force make-versus-buy decisions about camera systems. The numeric search capability in this search system was desired for use in searching the specifications data (e.g. lens descriptions, film speeds), not for searching geographic coordinates of images. Giering had been using some small IBM equipment at the RECON CENTRAL facility, and was talking with Air Force officials about a possible upgrade to one of the newer IBM 360 machines that were now starting to become available. He used the Northwestern project results and Giering's experiments with Northwestern's BIDEP text searching programs to argue their utility to the RECON CENTRAL activity. The Air Force officials agreed, and let Data Corporation acquire the IBM 360 as part of the existing facilities contract. Subsequent early work on the Data Corporation system then made use of the BIDAP programs from Northwestern, and the Air Force's IBM 360 computer being operated by Data Corporation as part of a facilities contract.

The BIDAP software was meant for batch processing, and when initially used by Giering it was used with a dedicated machine (i.e. fast batch, with no other jobs or users on the system), with the operator either at the computer console, or at a remote terminal (but not both at the same time). Thus it was online, but not interactive, and not with multiple (parallel) users.

Post-Mead. Giering left MTL in December 1977 to start his own company, Infotech. He installed his newspaper editorial text editing and retrieval system at the Globe during the Christmas season of 1980. This was the start of the major newspaper databases other than the NYTIB.

Don Wilson. CONQUEST (Contextual Query) is essentially an upgrade of the LEADER approach, and now a commercial venture.

Horty. Doesn't know what happened to him. When Aspen didn't do well (financially), the financial backers forced him out in 1971 or 1972, and Larry Berul came in and turned Aspen around. (Larry Berul was later associated with Amicus.)

Harrington. Don't know how to reach him. He separated from Diana McCabe, and was a consultant to Mead. He was also writing mystery novels under another name.

KWIC and Highlighting. At the same time that they introduced highlighting for color terminals, they also developed equivalent schemes for monochrome terminals (blinking characters, underlining, special characters before and after the term). For printing terminals that could not backspace for underlining, they used inequality signs as arrows (>TERM<) to show the search term.

Carrier Corporation. They sold the Data Corporation software to the Carrier Corporation in 1973 or 1974, but the installation was a failure because the operating instructions for the computer people (not the searchers) were not well documented.

In the small-world department, this was the same crew at Carrier Corporation that later provided the computer support to the initial BRS service.

Mead Financials (Chapter 10, page 36). LEXIS may have turned a profit in 1977 in 4 years after it started, but that was 7 years after the launch of the OBAR service. In 1969, when Mead made the investment in Data Corporation, profitability of the online service bureau activity and software sales was projected to be in 3-4 years (i.e. 1973-74).

Data Corporation Start. Don't know when Data Corporation started. He suggested that we ask Bill Gorog or Don Wilson. Gorog was with a magazine publisher 8-10 years ago.

Alternate Address. Giering is fully retired now. For part of the year, he stays at their condo in Florida:

Dick & Carol Giering
2866 N.E. 30th Street, Apt. 16
Ft. Lauderdale, FL 33306
(305/566-2238)

xc: Trudi

HARRINGTON

CHARLES BOURNE AND ASSOCIATES

1619 Santa Cruz Avenue
Menlo Park, California 94025
(415) 322-7101

June 18, 1997

Bob Bennett
2471 East Stonebrook Circle
Sandy, UT 84092

Dear Bob:

It was good to talk with you the other day. As I mentioned, now that I've retired from DIALOG, I am able to spend more time working with Trudi Bellardo Hahn of the University of Maryland, to write a book for Academic Press on the early (pre-1977) history of the online search services and technology.

Because you were a direct participant and observer in these activities, we'd appreciate whatever help you can provide in our task. We've gone about as far as we can go from the published material that we've been able to get our hands on. Now we need to have the current draft checked by the people who were on the scene at that time—to correct the factual mistakes, fill in some of the missing pieces, and to provide additional comments as appropriate.

With that introduction, I invite you to review the enclosed draft text of the chapter that describes the Data Corporation, OBAR, and early Mead activity.

You may notice that some of the text is in boldface. That's just a temporary artifice to permit me to keep track of my own text and source material so that I can remember where things came from. You may also see some notes passed between Trudi and me as part of the dynamic text-building process.

I know that you will be on travel until early July. But I'd like to get your comments back in a week or two after that if that's possible. Just mark up and return the text if that's easiest for you. If you have any questions or comments, please give me a call. I'd also appreciate your suggestions for additional reviewers. I look forward to hearing from you.

Best regards,

Chan

Charles P. Bourne

Enclosures: Chapter 8 (6/19/97 edition)

xc: Trudi Bellardo Hahn (letter only)

P.S. Can you tell me how to get in contact with Don Wilson, Jerry Rubin, and Bill Harrington?