From Research to Search: Technologies and Techniques of Legal Research, 1880-1980

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ABSTRACT

In 1964, the Ohio State Bar Association (OSBA) embarked on a project to harness computer technology to automate legal research. After three years of investigation, it established the Ohio Bar Automated Research (OBAR) organization and contracted a local computer company, Data Corporation, to develop an electronic legal research service. Despite initial skepticism and mounting costs, these lawyers and technologists managed to launch a working service by 1969. The service – also named OBAR – was available through remote consoles placed in law firms, libraries, and government offices. By 1973, an improved system was relaunched as Lexis, a soon-to-be-national legal information retrieval service. Lexis went on to become a staple of American legal practice while OBAR gradually faded out of the picture. This dissertation tells the story of the OBAR system and its promise of automating legal research.

What did it take for lawyers to begin using and trusting a computer technology for their work? I argue that the automation of legal research required both conceptual and material rearrangement. Legal research was a deeply social activity supported by an intricate infrastructure of people, technologies, and techniques. To be trusted and used, the computer had to be constantly charged with meanings, often contradictory ones. It was presented as a tool that would be integrated into an existing legal research process and a technology that would overhaul legal research. The computer was attributed mechanical qualities, like being objective or operating according to instructions, and human ones, like being sophisticated and capable of conversation. These contradictory meanings, along with the gap between promise and reality, were constantly sewn together as part of the computerized system's development and marketing process.

To capture the process of automation, this dissertation traces legal research practices before the computer, the development process of the new technology, and the competing notions of trust and credibility in its early years. The first section traces the splintering of legal research into a distinct task that could be taught, delegated, and automated. In the first chapter, I focus on print legal research technologies and legal research instruction through the first half of the 20th century. I show that innovations in legal research went hand-in-hand with a reallocation of legal work among lawyers and non-legal staff. Examining legal research manuals shows that instruction in types of law book gradually gave way to a more systematic approach to legal research. The second chapter considers the history of legal research work through an examination of the law office and the distribution of labor within it. It shows that the development of legal research into a distinct task that could be delegated was intertwined with social, professional, and technological developments at mid-century. The third chapter describes how the specter of automation focused bar associations' attention on legal research practices. It shows that legal research fit into a social and professional setting. Lawyers relied on an array of technologies and

personnel to produce answers to legal questions. As a whole, the section argues that three factors joined to make legal research into a distinct task, thus making its automation possible: the development of instructional materials and courses on legal research, the growth and bureaucratization of law firms, and the introduction of women and machinery into the law office in the 20th century.

Two chapters and two short excursuses make up the second section, which focuses on the development and early adoption of the OBAR system. In chapter four, I examine the entanglement of technological choices and ideals in the process of developing the OBAR system in the 1960s. I show that the focus on direct use by lawyers was meant to cast suspicion on human judgment while touting the computer as an objective and trustworthy tool. Excursus one unpacks OBAR's promise of an interactive system. It shows that at the same time as the system was likened to human dialogue, it offered a substantially different interaction with court cases, a process that altered the epistemic and social setting of legal research. Chapter five considers the reactions of OBAR's early users as communication consoles were placed in law firms and libraries across Ohio in the 1970s. Relying on call reports and correspondence, I examine controversies around the system's accuracy and credibility. Excursus two tells the story of what came out of the system's promise in light of later developments. Focusing on the chasm that developed between lawyers and technologists in defining the system in the 1970s, it explains how an approach that focused on the system as a product prevailed over an approach that viewed the system as a service to the profession. To become a successful national product, Lexis had to shed its connections to the organized bar and give up any social aspirations.

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It is clear when writing a dissertation ends. There are endless forms, signatures to collect, documents to assemble. But when does it begin? Where to locate the thin line that separates a world from which it was absent from a world when it slowly gestated until it was developed enough? I began writing and thinking about technology and law when I was a student at Tel Aviv University. I studied at the faculty of law and the faculty of humanities and felt like an outsider in both. I was the lawyer among humanists and the humanist among lawyers. I began to thrive when I found my way into the fields that came to occupy much of my time in law school: labor and employment law, criminal law, and international law. Guy Mundlak, Yofi Tirosh, and Hila Shamir were instrumental in cultivating a labor-sensitive outlook that still influences my work. My early exposure to the workplace as a microcosm of society owes much to their teachings. Talia Fisher's seminar was my first introduction to the "other side" of labor, the world of capital and markets. She encouraged me to approach scholarship generously and with an open mind. The seeds of my preoccupation with digital technology and its transformative power were planted in the seminar paper I wrote for her course on the commercialization of speech online. Yoav Sapir, Elkana Laist, and Itai Hermelin, my criminal law teachers, were excellent mentors. Guy Mundlak and Talia Fisher supported me through the trials and tribulations of graduate school even when my preoccupation with technology carried me away from law.

On the other side of the wide lawn, I had my first training in the history of science, narratology and literature, and feminist theory at the Gilman humanities building. I had many excellent teachers and mentors there. Gadi Algazi remains the model of what a teacher should be. He was simply extraordinary. I learned to read texts closely and rely heavily on a dictionary with Menakhem Perry, Tamar Yacobi-Sternbe, and Michael Gluzman. These three giants in literary theory provided me with the essential tools of reading between the lines and analyzing texts and their meaning. For people who like to read, there is nothing like being handed the operating instructions of literary works. My critical and historical training was the perfect companion to law school. It equipped me with the conceptual framework necessary to understand law from the outside, not just from within. After graduation, Snait Gissis provided valuable support and guidance.

At New York University, I was lucky to learn from Eyal Benvenisti and Benedict Kingsbury. I studied with Eyal Benvenisti in my very first year of law school, and he shaped my thinking in more ways than one. His comments and analysis would simmer in my head until, weeks later, I would finally realize their significance. Some of these insights stayed with me for years. He is a generous and creative scholar who is always ahead of the curve. Through his work, I learned of the field that became my primary focus at NYU's School of Law: international law. I had the fortune to take his and Benedict Kingsbury's course at NYU which treated everything I knew about international law as "one possible approach." Through Benedict's mentorship and teaching, I've learned the other approach, which was an exciting revelation. International law did not live only in treaties and international organizations but in a plethora of regulations, standards, state legislation, and corporate acts. Studying with Benedict and being mentored by him was superb. He always had fresh ideas. He listened attentively and patiently. And he never hid what he thought. I still try to approach my research topics holistically and to write the empirical parts first (theory, as he said, comes later).

My dissertation committee at MIT has been the best support system I could ask for. As mentors, teachers, and advisors, they provided models to imitate and invaluable advice. I am forever in their debt. Susan Silbey, with whom I shared more than my maiden name, guided my way in academia and in the field of law and society. Susan's mentorship is like a warm, encompassing embrace – it combines fierce conceptual work, methodological training, strategical planning, and many conversations about life and work. She taught me how to write and think sociologically. Most importantly, she showed me the power of collaborative work and serious intellectual engagement with my peers. The working groups she arranged were exactly what I was looking for in graduate school: a circle of colleagues working and thinking together. She was also the first teacher to invite me to her home. She could combine in the same conversation gardening tips, critical research insights, professional advice, and gossip. She taught me the most important lesson: a life worth living is comprised of many things. Yes, thinking and writing. But family, love, and friendship were equally important.

It was an immense privilege to have Will Deringer by my side. I met Will as a TA for his immensely popular class "Finance and Society." As I sat through his lectures I was inspired (and a little intimidated) by his ability to guide students through complex arguments without compromising the detail and richness of historical events. Aside from being an enviable model for scholarship and teaching, Will was the best mentor one could hope for. I would come into his office (he always found time) nervous about writing or coursework and would always leave with my confidence restored and in high spirits.

Eden Medina was a beacon of support and encouragement when I needed it the most. I was inspired by Eden's scholarship and was thrilled when she joined MIT. That I ended up writing a historical study of a computer system owes much to our long conversations on the history and sociology of information technology. Her feedback was always thoughtful and often shed new light on things.

Chris Capozzola taught the first-year course in history for HASTS students. He set the bar extremely high. Chris is the kind of teacher that makes you leave class in better shape than when you entered it. He remains one of my favorite teachers. He always made time to meet to discuss my dissertation chapters, and his comments were generous and illuminating.

Other faculty members at HASTS were kind, supportive, and insightful. I thank Heather Paxson, Harriet Ritvo, Dwai Banerjee, Manduhai Buyandelger, Deborah Fitzgerald, Michael Fischer, Stefan Helmreich, Graham Jones, David Kaiser, Amy Moran-Thomas, Tanalís Padilla, and Robin Scheffler. Karen Gardner helped me navigate MIT and always found a solution for a slew of unexpected problems.

My fellow grad students made my time at MIT much more pleasant. I am lucky to have met them. Alona Bach, Mariel García-Montes, Boyd Ruamcharoen, Raha Peyravi, Taylor Bailey, Gabrielle Robbins, Steven Gonzalez, Michelle Spektor, Elena Sobrino, Marc Aidinoff, Luísa Reis Castro, Crystal Lee, Rijul Kochhar, Jia Hui Lee, Ashawari Chaudhuri, Clare Kim, Grace Kim-Butler, and Beth Semel were always supportive and fun to be around. The many hours I spent in the basement of E-51 were much nicer in their company.

I was fortunate to have received a fellowship at the American Bar Foundation during my dissertation. There, I was supported by Bob Nelson, Jothie Rajah, Laura Beth Nielsen, and Elizabeth Mertz. Bryant Garth, Rebecca Sandefur, Chris Schmidt, Carol Heimer, and Ajay Mehrotra were more welcoming than I could have hoped for. Sarah Brayne, who served as my external mentor, inspired me and always had useful feedback and suggestions. The ABF's culture, where speakers are welcomed warmly and feedback is constructive, remains something I aspire to. I was fortunate to have wonderful colleagues there: Kumar Ramanathan, who always had something smart to contribute and welcomed me to Chicago with his bespoke recommendations, and Isabel Anadon, Hardeep Dhillon, and Sonya Rao.

At the University of Virginia, I received a warm welcome at the Global Legal History group. Paul Halliday provided feedback, shared his thoughts and work with me, and arranged for a much-needed working space. The staff at the Arthur J. Morris Law Library provided an expansive collection of law books to think with. I did not realize how much I needed a law library to complete this project before I had a working station in one.

A few archivists and individuals were instrumental as well. This study would not have been possible without the assistance and encouragement of Rob Myers at Case School of Law. Rob and the staff at the Judge Ben C. Green Law Library welcomed me to their archive, provided continued support, and were more cordial than I had a right to expect. Sammi Merritt at the University of Illinois Archives and Penny Ahlstrand at the Computer History Museum were very helpful as well. Many individuals shared their materials and stories with me: Karen Koykka O'Neal, Irina Rieser, Kenneth Zwick, Robert MacConnell, John Rausch, Dan Hall, Bob Willard, and Nancy Ryall. I am grateful for their time and interest.

I could not have completed this long study without my friends and family. Yigal Balfour, Yana Khain, Yuval Naim, Karin Sorokin, and Felice Physioc always had the right words of encouragement to keep me on track. Katharina Isabel Schmidt was a close friend in a crucial time. I also had my family by my side and their support meant the world to me. My grandparents, Natalya and Anatoly, were always keen to hear me talk about my work and plans.

This dissertation is dedicated to them. My parents allowed me to chart my own course in life and I'm grateful for their continued support. Nancy was my work partner since the early days in the basement of E-51. She kept me from getting up too often and encouraged me to take breaks outside. I could not have completed this project without Ohad, my soulmate. His encouragement, strength, and steadfast support meant that I could count on his belief in me when I had little of my own. The time I spent with Orr kept me going. Being let in into his world of play, laughter, and music improved my life immensely. I cherish our time together.

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Introduction

In April 1993, Kathleen Carrick, the director of the Case Law Library, received a letter from picturesque Cos Cob, Connecticut. Printed on the custom stationery of "The William Harrington Office," the letter was a response to a letter Carrick had sent William G. Harrington earlier in April.[1] In the early 1990s, Bob Asman and Carrick had begun work on a book devoted to computer-assisted legal research.[2] Asman was the former president of the Ohio Bar Automated Research (OBAR) organization, a subsidiary of the Ohio State Bar Association (OSBA) devoted to electronic legal research. Asman and Carrick hoped to "capture the ideas, goals, and genius of the personalities involved" through interviews with the pioneers of computerized legal information technologies.[3] OBAR's system (also titled OBAR), one of the earliest legal information systems in the United States, was to take center stage. Carrick wrote to William Harrington, one of OBAR's pioneers, inviting him to contribute an essay to the book and perhaps agree to be interviewed.[4]

Harrington, by then in his sixties, had long moved on from his days with the OSBA. He joined the OSBA in the winter of 1965, serving as its research and legislative counsel, and quickly took on a leading role in the OSBA's initiative to develop an electronic legal research service for Ohio lawyers. When OBAR was formed in 1967, he served as its first executive vice president, a role in which he remained until he resigned and turned to private practice in 1971. He moved from Columbus, Ohio, to Greenwich, Connecticut, where he eventually shifted to his second long-term career: writing mystery novels.[5]

"I am bemused, not to say astonished, to hear that you and Bob Asman mean to write a history of OBAR," his response to Carrick opened.[6] Rejecting her offer to contribute to the book,

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[1] William Harrington to Kathleen Carrick, April 20, 1993, P Series, Folder P67b, The Ohio Bar Automated Research (OBAR) Archives, Case Western Reserve University School of Law, Judge Ben C. Green Law Library (hereinafter: "OBAR papers").
[2] R. J. Asman and Kathleen Carrick to Jerome Rubin, April 9, 1993, P Series, Folder P67b, OBAR papers.
[3] Carrick to Rubin, April 9, 1993.
[4] Carrick's letter to Harrington has not been preserved. This description is based on a contemporaneous letter she sent to Jerome Rubin in early April and Harrington's response letter. Carrick to Rubin, April 9, 1993.
[5] "William G. Harrington, 68; Wrote Mysteries and Thrillers," *New York Times*, November 16, 2000, https://www.nytimes.com/2000/11/16/arts/william-g-harrington-68-wrote-mysteries-and-thrillers.html.
[6] William Harrington to Kathleen Carrick, April 20, 1993, P Series, Folder P67b, OBAR papers.

he stated that he had written "all [he] intended to write on the subject." Harrington referred her to a handful of articles he published in the *American Bar Association Journal* and the *Law Library Journal* on the history of computer-assisted legal research and the OBAR system.[7]

Adding insult to injury, Harrington wrote that he was "not sure who cares about the history of OBAR," and that it was "like writing the history of chewing gum."[8] In addition, he doubted that the technology behind OBAR (and Lexis or Westlaw, he added), which he described as obsolete and "a curiosity from the past" would interest anyone. It is "about as relevant to the next century as a horse-drawn beer wagon," he wrote. The last two sentences, above a large scribbled H to serve as a signature, read, "There is your story. The utilization of technology, and the challenge of obsolescence." The letter, which Carrick later described as "a very curt letter," did not discourage Carrick and Asman.[9] They continued to work on the book until 1998, when Asman's passing put an end to it.[10]

The basic facts of the creation of OBAR and its transformation into Lexis are, indeed, well known.[11] Harrington, as one of OBAR's pioneers and the most prolific OBAR documenter, provided much of the material for the standard OBAR story.[12] In 1964, the OSBA began

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[7] William G. Harrington, "Computers and Legal Research," *American Bar Association Journal* 56, no. 12 (1970): 1145–48; William G. Harrington, "What's Happening in Computer-Assisted Legal Research." *American Bar Association Journal* 60, no. 8 (1974): 924-933; William G. Harrington, H. Donald Wilson and Robert L. Bennett, "The Mead Data Central System of Computerized Legal Research," *Law Library Journal* 64, no. 2 (May 1974): 184-189; William G. Harrington, "A Brief History of Computer-Assisted Legal Research," *Law Library Journal* 77, no. 3 (1984-1985): 543-556.

[8] Harrington to Carrick, April 20, 1993.

[9] Jerome Rubin, interview by Kathleen Carrick, July 12, 1993, P Series, Folder P67a, OBAR papers.

[10] Robert Asman donated the OBAR papers collection to Kathleen Carrick who subsequently donated the materials to the Case Law Library, where they are still housed. "Administrative Information," The Ohio Bar Automated Research (OBAR) Archives, Case Western Reserve University School of Law, Judge Ben C. Green Law Library. https://lawresearchguides.cwru.edu/c.php?g=1371172&p=10133455.

[11] Although the story has been recounted in many publications, Harrington's "A Brief History of Computer-Assisted Legal Research" and Bourne and Hahn's "Computer Searching for the Legal Profession, 1964–1972" remain the two most detailed accounts. Charles P. Bourne and Trudi Bellardo Hahn, "Computer Searching for the Legal Profession, 1964–1972" in *A History of Online Information Services, 1963-1976*, Cambridge: MIT University Press, 2003: 229-258.

[12] There were other pioneers who contributed articles on OBAR. Their accounts were less detailed and largely agreed with Harrington's description. Frank J. Troy, "Ohio Bar Automated Research - A Practical System of Computerized Legal Research," *Jurimetrics Journal* 10, no. 2 (December 1969): 62-69; Diana Fitch McCabe, "Automated Legal Research," *Judicature* 54, no. 7 (February 1971): 283-289; James F. Preston Jr., "OBAR and Mead Data Central System," *Law Library Journal* 64, no. 2 (May 1974): 190-192. Diana Fitch McCabe's account, the only one that offered an alternative perspective on OBAR, is discussed in depth in excursus 2.

exploring the possibility of electronic legal research. For three years, it worked to refine its vision for an electronic legal research service while examining available technologies. It finally homed in on Data Corporation, a computer company out of Dayton, Ohio, which had previously developed a full-text information retrieval system for the Air Force. A successful demonstration sealed the deal. In 1967, the OSBA incorporated the Ohio Bar Automated Research (OBAR) organization to develop an electronic legal research service. It signed a contract with Data Corporation to adapt its existing system to the needs of Ohio lawyers and to convert an initial body of Ohio case law into an electronic format. While the development was underway, Data Corporation was acquired by Mead, a paper and pulp company looking to diversify. In 1970, Mead incorporated Mead Data Central (MDC) to take over Data Corporation's legal research service and invested the necessary funds to continue development. By 1973, an improved system was relaunched as Lexis, a soon-to-be-national legal information retrieval service. Lexis continued growing and expanding its portfolio of services while OBAR gradually "faded out of the picture."[13] The initial funding OBAR had recruited from Ohio lawyers ran out in the late 1960s, and thereafter it depended on advances from MDC against future royalties. By the time Lexis had finally turned profitable in 1977, the debt was too large and OBAR was practically nonexistent. Lexis went on to become a staple of the American legal profession.

Was Harrington right? Was OBAR's story a story about technological obsolescence and its details "a curiosity from the past" that have no relevance for our day and age? That would certainly have made for a shorter dissertation. While some basic facts are well established, many questions remain. How was OBAR's definition crafted? What informed its notions of "lawyers' needs"? How did the OBAR system relate to lawyers' existing legal research practices? What made OBAR/Lexis an eventual success in a time when many services competed for lawyers' attention? And, most importantly, were there any alternatives to Harrington's recounting of events?

The existing scholarship on OBAR/Lexis is of two types. The first type has occupied many of the pages of the *Law Library Journal* and law reviews since the mid-1980s. Written primarily by legal librarians, this work has concerned the effects of computerized legal research

[13] Harrington, "A Brief History of Computer-Assisted Legal Research," 551.

systems, such as OBAR/Lexis, on legal reasoning and legal practice (and, more recently, on access).[14] The second type, a less voluminous body of work, has emphasized the process of OBAR/Lexis's development and relied mostly on accounts by OBAR/Lexis pioneers.[15] While the latter type privileges OBAR's developers, the former privileges its users. What was missing from these accounts was an intermediate stage: how did we go from development to use? What did it take to persuade lawyers to use the new system? And what was the connection between OBAR's development and its effects? Was the transformation in legal research, amounting to a paradigm shift as some have argued, an intentional or an unanticipated effect?

The two types of literature also differ in emphasis. The first type of literature is almost entirely conceptual: it approaches legal research as a cognitive process that takes place in lawyers' heads. The second type focuses only on the mechanics: it treats the development of OBAR/Lexis as a product, highlighting technical features and marketing choices. This study takes a socio-technical approach that connects the two. Its point of departure is that the OBAR story was at once an ideational, material, and social story. The work of developing OBAR could not be reduced to its mechanics, and its effects were not only conceptual.

[14] Robert C. Berring, "Full-Text Databases and Legal Research: Backing into the Future," *High Technology Law Journal* 1, no. 1 (1986): 27-60; Robert C. Berring, "Legal Research and Legal Concepts: Where Form Molds Substance." *California Law Review* 75, no. 1 (1987): 15–28; Richard Delgado and Jean Stefancic, "Why Do We Tell the Same Stories?: Law Reform, Critical Librarianship, and the Triple Helix Dilemma," *Stanford Law Review* 42, no. 1 (1989): 207–25; Carol M. Bast and Ransford C. Pyle, "Legal Research in the Computer Age: A Paradigm Shift?," *Law Library Journal* 93 (2001): 285-302; F. Allan. Hanson, "From Key Numbers to Keywords: How Automation Has Transformed the Law" *Law Library Journal* 94, no. 4 (2002): 563–600; Daniel P. Dabney, "The Curse of Thamus: An Analysis of Full-Text Legal Document Retrieval," 78 *Law Library Journal* 5 (1986): 5-40; Stefan H. Krieger and Katrina Fischer Kuh, "Accessing Law: An Empirical Study Exploring the Influence of Legal Research Medium," *Vanderbilt Journal of Entertainment and Technology Law* 16, no. 4 (2014): 757-808; Robert C. Berring, "Legal Research and the World of Thinkable Thoughts," *Journal of Appellate Practice and Process* 2, no. 2 (Summer 2000): 305-318; Richard Haigh, "What Shall I Wear to the Computer Revolution? Some Thoughts on Electronic Researching in Law," *Law Library Journal* 89, no. 2 (1997): 245-264. More recent work shifted to focus on access: Olufunmilayo B. Arewa, "Open Access in a Closed Universe: Lexis, Westlaw, Law Schools, and the Legal Information Market Symposium: Open Access Publishing and the Future of Legal Scholarship," *Lewis & Clark Law Review* 10, no. 4 (2006): 797–840; Sarah Lamdan, *Data Cartels: The Companies That Control and Monopolize Our Information*, Stanford: Sandford University Press, 2023.

[15] Xiaohua Zhu, "Innovation in Search of a Context: The Early History of Lexis." *Information & Culture* 54, no. 2 (2019): 220–42; Charles P. Bourne and Trudi Bellardo Hahn, *A History of Online Information Services, 1963-1976*, (Cambridge: MIT University Press, 2003).

The two historical works on the development of OBAR are Bourne and Hahn's *A History of Online Information Services* and Zhu's account of the early development of OBAR/Lexis.[16] Both suffer from an overreliance on the accounts of technologists, more of whom participated in oral history projects and proved more responsive to later communications. Harrington's articles were usually the only sources "representing" the perspective of the lawyers involved. Bourne and Hahn's tome, while impressive in scope, is largely a history of pioneers in information technology. As such, it focuses on technological innovation, not on adoption or impacts on legal practice. In addition, it places legal information services alongside other, similar services of the time. This puts OBAR/Lexis in one line with information services developed for military or business applications and strips the story of its uniqueness: the collaboration between technologists and lawyers and the long history of technological innovation in legal research.

Zhu's account is more attentive to the inner workings of developing OBAR/Lexis. In it, she adopts a social constructivist approach to argue that the technology developed by Data Corporation was an "innovation in search of context," an invention that did not cater to a preexisting user base but found a willing audience among lawyers who could afford its costs. Since Zhu's main sources were the accounts of MDC's technologists who developed OBAR/Lexis, her account describes lawyers as passive recipients, not collaborators. As a consequence, her account cannot explain why or how lawyers adopted the technology or what work had to be done for adoption to happen.

Research Question and Argument

At the center of the study is a simple question: what did it take for lawyers to begin using and trusting a computer technology for their work? I argue that the automation of legal research required both conceptual and material rearrangement. It rearranged not just the actions lawyers took when they performed legal research but the entire social and epistemic setting that facilitated the knowledge of law. Legal research was a deeply social activity supported by an intricate infrastructure of people, technologies, and techniques. The process of automation

[16] Zhu, "Innovation in Search of a Context"; Bourne and Hahn, *A History of Online Information Services.*

rearranged both meaning and work. The meaning of legal research was altered as the physical work and the division of labor in the office were reshaped.

The computer, to be trusted and used, had to be constantly charged with meanings, often contradictory ones. It was described as a machine that required no trust, since it involved no mediation or intervention and could employ no judgment. At the same time, it was presented as a revolutionary way of conducting legal research. Accordingly, it was presented, at the same time, a tool that would be integrated into an existing legal research process and a technology that would overhaul legal research. It was said to require very little training (and no knowledge of code) but relied on complicated syntax and an array of professionals, from secretaries to librarians, law students, paralegals, and technical support personnel for its operation. The computer was attributed mechanic qualities, like being objective or operating according to instructions, and human ones, like being sophisticated and capable of conversation. These contradictory meanings, along with the gap between promise and reality, were constantly sewn together as part of the computerized system's development and marketing process.

The study also shows that the work of developing and maintaining legal research technologies, both in print and computers, was systematically ignored. Despite depending on an array of people and technologies, legal research maintained the aura of a cognitive, demanding task that only lawyers did. People who facilitated legal research were systematically erased while technologies were put front and center. West's Key Number, a print technology, was celebrated without an account of the people who produced it, updated it, or used it in the law office. Similarly, OBAR and Lexis terminals were celebrated as promoting lawyers' independence of legal publishers and librarians at the same time as they were being operated by secretaries, paralegals, and librarians. The work of "conversion," typing Ohio printed volumes onto punch cards, was characterized as manual work even though it involved making substantial determinations on the content of data "segments."

An explanation of terminology is in order. Why chose "automation," a word usually used to describe production and factories, and not the loftier "computerization" or "digitization"? The first reason is fidelity. Many of the initial references to the possible use of computers for legal

research described the process as "automation."[17] Automation, after all, was the A in OBAR. The second reason is emphasis. Using "automation" centers work, which is the primary focus of this dissertation.[18] It also places the story within the context of historical and sociological scholarship that has examined frequent promises of using machines to do the work of people. Terminology was also one of the main arenas of making sense of the new technology. Was legal research computerized or computer-assisted? Was the system a legal information retrieval system or a legal research system? Emphasizing automation widens the scope of this study: it brings workplaces, law office personnel, and the promise of efficiency into the conversation. Any system of legal research was embedded in a sociotechnical setting that included people and things who together facilitated the production of answers to legal questions.

As a case study in the automation of professional work, this dissertation is located between three primary fields of study: studies of technology and work, studies of the social construction of technology, and histories of computing and information technologies. Historical and sociological studies of workplace technologies, particularly information technologies, provide insight into the processes by which these technologies made sense of and transformed work. The social construction of technology literature provides the necessary glue to answer the question of adoption and the connection between development and use. It also provides the analytical framework to examine how technologies are made durable and trustworthy. Finally, histories of computing and information technology provide a wider context to the state of technological development in the 1960s and 1970s as well as a guide to the worldviews of "computer people."

Technology in the Workplace

Work and organizations scholars have long been interested in the impact of technological changes on workplaces, organizations, and professions. They have documented how the

[17] To name a few examples: Diana Fitch McCabe, "Automated Legal Research," *Judicature* 54, 7 (February 1971): 283-289. William A. Fenwick, "Automation and the Law: Challenge to the Attorney," *Vanderbilt Law Review* 21, no. 2 (March 1968): 228-265; F. Reed Dickerson, "Automation and the Lawyer," 9 *Res Gestae* (January 1965): 5-8; Thomas C. Plowden-Wardlaw, "Automation and the Law," *Jurimetrics Journal* 14 (1973-1974): 266-269.
[18] As Harrington himself noted, the choice of terminology reflected assumptions about the division of labor. Harrington, "A Brief History of Computer-Assisted Legal Research," 543.

introduction of new technologies into workplaces redrew organizational boundaries, reallocated labor, shaped workers' skills and autonomy, and changed power and authority relations within the workplace. Some have found that advanced technologies led to more centralized work, deskilling of workers, and a reduction in workers' autonomy.[19] Others have found that the introduction of advanced technologies led to decentralization and reduced hierarchies in the workplace, upskilling and the rise of knowledge work, and increased worker autonomy.[20] Often, the results were mixed. Although computerization reduced hierarchy, it did so by eliminating a middle class of workers, thus leading to a more polarized workplace.[21] The upskilling of production work did not always translate into more autonomy.[22] This body of work, despite internal controversies, has found that introducing new technologies was never a clean, one-off intervention, but triggered a renegotiation of tasks, roles, and relations in the workplace.[23]

Even before any new technology entered a workplace, debates about automation served as arenas for articulating the nature of work and workers. Whose work would be automated? Where to draw the boundary between humans and machines? What was the right unit through which to examine automation (a factory? an industry? "the economy"?)? The replacement of workers with machines was viewed as either promising or dangerous, depending on one's perspective.[24] Scholars of technology and work have found that the impact of automation was more complex than simply replacing workers with machines. Paradoxically, as Gray and Suri documented, even if automation replaced some human labor, it also generated new types of tasks

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[19] Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* (New York: NYU Press, 1974); David F. Noble, *America by Design: Science, Technology, and the Rise of Corporate Capitalism* (New York: Alfred A. Knopf, 1977); Harley Shaiken, *Work Transformed: Automation and Labor in the Computer Age* (Lexington: Lexington Books, 1986).

[20] Larry Hirschhorn, *Beyond Mechanization* (Cambridge: MIT Press, 1984); Michael Piore and Charles Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York: Basic Books, 1984).

[21] Stephen R. Barley and Julian E. Orr, *Between Craft and Science* (Ithaca: Cornell University Press, 1997); Barbara Baran, "The Technological Transformation of White-Collar Work: A Case Study of the Insurance Industry," in *Computer Chips and Paper Clips: Technology and Women's Employment, Volume II* (1987): 25-62.

[22] Shoshana Zuboff, *In the Age of The Smart Machine: The Future of Work and Power* (New York: Basic Books, 1988).

[23] Michael Barrett, Eivor Oborn, Wanda J. Orlikowski and JoAnne Yates, "Reconfiguring Boundary Relations: Robotic Innovations in Pharmacy Work," *Organization Science* 23, No. 5 (2012): 1448-1466; Stephen Barley, "Technology as an occasion for structuring: evidence from observation of CT scanners and the social order of radiology departments," *Administrative Science Quarterly* 31(1986):78–108; Katrin Jonsson, Jonny Holmstrom, and Kalle Lyytinen, "Turn to the material: Remote diagnostics systems and new forms of boundary spanning," *Information Organization* 19, no. 4 (October 2009): 233-252.

[24] David H. Autor, "Why Are There Still So Many Jobs? The History and Future of Workplace Automation," *Journal of Economic Perspectives* 29, no. 3 (2015): 3–30.

for humans.[25] In addition, talk of automation could not be separated from discussions of types of workers. If early concerns concentrated on trained blue-collar workers being susceptible to automation, the pendulum quickly swung in the other direction, drawing attention to white-collar workers and professionals.[26] Analyses of whether lawyers, physicians, and scientists would "be replaced by robots" proliferated.[27]

Studies focused on professional work have shown that new technologies often reinforced status and authority. For elite professionals (including lawyers), computerization often translated into more administrative work, but their autonomy and discretion were retained.[28] Among technicians and paraprofessionals, however, computerization led to deskilling, more work, and "deprofessionalization."[29] Studies that have focused specifically on attempts to "automate" expertise have found that such attempts were able, at best, to replace some human tasks with computers.[30] The effect was often not the automation of expertise but rather the segmentation of work and the rearrangement of tasks and routines.

A few scholars have specifically examined the effects of the automation of legal research on the organization of the legal profession and its jurisdictional boundaries. Samuel Trosow reviewed the effects of the "database" on the organization of law in three categories: the erosion of professional boundaries, stratification in the legal profession, and the effect on the labor

[25] Mary L. Gray and Siddharth Suri, *Ghost Work: How To Stop Silicon Valley from Building a New Global Underclass* (Boston: Houghton Mifflin Harcourt, 2019), xxii.
[26] "The Automation Jobless," *Time Magazine*, February 24, 1961.
[27] Richard Susskind and Daniel Susskind. *The Future of the Professions: How Technology Will Transform the Work of Human Experts* (Oxford: Oxford University Press, 2015).
[28] Eliot Freidson, "The Changing Nature of Professional Control," *Annual Review of Sociology* 10 (1984): 1-20; Beverly H. Burris, *Technology at Work* (Albany: State University of New York Press, 1993); Wolf Heydebrand and Carroll Seron, *Rationalizing Justice: The Political Economy of Federal District Courts* (Albany: State University of New York Press, 1990); Eve Spangler and Peter M. Lehman, "Lawyering as Work," in *Professionals as Workers: Mental Labor in Advanced Capitalism*, ed. Charles Derber (Boston: G. K. Hall and Co., 1982), 63-99.
[29] Marie R. Haug, "The Deprofessionalization of Everyone?" *Sociological Focus* 8, no. 3 (August 1975): 197–213; Magali Sarfatti Larson, *The Rise of Professionalism: A Sociological Analysis* (Berkeley: University of California Press, 1977); Robert Rothman,"Deprofessionalization: The Case of Law in America," *Work and Occupations* 11, no. 2 (1984): 183-206.
[30] Harry Collins, *Artificial Experts: Social Knowledge and Intelligent Machines* (Cambridge: MIT Press, 1990); Dana Remus and Frank Levy, "Can Robots Be Lawyers: Computers, Lawyers, and the Practice of Law," *Georgetown Journal of Legal Ethics* 30, no. 3 (Summer 2017): 501-558; Pauli Pakarinen and Ruthanne Huising, "Relational expertise: What machines can't know," *Journal of Management Studies*, Early View (2023).

process.[31] He found that the early promise of increased accessibility equalizing the profession was not realized.[32] Legal scholars have also found that information retrieval technology did not diminish polarization among lawyers, but rather increased it. It did not serve as an equalizer.[33] Finally, on the issue of labor, scholars have shown that the more law became business-like, the more the gap between partners and associates increased.[34] Technology supported the balkanization of lawyers into two camps: partners (who were owners) and associates, who were wage workers. Like in more general studies of automation, rather than increasing efficiency and improving legal practice, new technologies ended up consuming more time.[35]

In addition to the body of work on labor and class, another body of work documents how technology, work, and gender were interwoven in the office.[36] Focusing on clerical work, some scholars have shown that new office technologies like the typewriter and the filing cabinet mapped onto certain bodies, such as female office workers, and forged the connection between technologies and gender as intrinsic. The negotiation of gender and class in the office was often done through objects like the typewriter, separating manual work, done by women, from cognitive work, done by men.

The Social Construction of Technology

The work of historians and sociologists of technology is particularly helpful in connecting development with use and the technical with the ideational. Early work in the history of technology was fundamental in articulating the notion of technological determinism and

[31] Samuel E. Trosow, "The Database and the Fields of Law: Are There New Divisions of Labor," *Law Library Journal* 96, no. 1 (Winter 2004): 63-94.
[32] Marie R. Haug, "Computer Technology and the Obsolescence of the Concept of Profession," *Work and technology* 10 (1977): 215-228.
[33] Craig Calhoun and Martha Copp, "Computerization in Legal Work: How Much Does New Technology Change Professional Practice?" *Research in the Sociology of Work* 4 (1988): 233-259; Douglas E. Litowitz, "Young Lawyers and Alienation: A Look at the Legal Proletariat," *Illinois Bar Journal* 84 (1996): 144-150.
[34] Calhoun and Copp, "Computerization in Legal Work."
[35] Douglas E. Litowitz, "Has Technology Improved the Practice of Law?," *The Journal of the Legal Profession* 21 (1997): 51-66.
[36] Craig Robertson, *The Filing Cabinet: A Vertical History of Information* (Minneapolis: University of Minnesota Press, 2021); Sharon Hartman Strom, *Beyond the Typewriter: Gender, Class, and the Origins of Modern American Office Work, 1900-1930* (Urbana: University of Illinois Press, 1992); Margery Davies, *Woman's Place Is At The Typewriter* (Philadelphia: Temple University Press, 1982).

mounting alternatives. Roe Smith's classic study of Harpers Ferry Armory showed that the notion that technological innovation and mechanization of work were desirable was not a given but constructed.[37] His study documented how artisan armorers' belief that their work consisted of crafting the entire weapon and their view of themselves as artisans impeded the adoption of mechanized production of parts of weapons.[38] To adopt machinery, workers had to be persuaded and their work processes and self-understanding rearranged – from artisans to machine tenderers.

Scholars in this field have rejected the notion of technological determinism, the idea that technology drives history (and thus adoption) or that technology can be separated from politics and "has a life of its own." Instead, the idea of technological determinism was itself constructed to erase the political controversies that undergirded the development of new technologies.[39] Thus, the success of new technologies has to be explained not just by their technical features (as "the best"), but with an eye for their social and political context and alternative trajectories. These scholars have also rejected the valorization of individual genius and innovation, opting instead for more grounded, collective, and practical accounts of technologies-in-use.[40]

The Social Construction of Technology (or SCOT) approach, in particular, offered a theory and a method for investigating content and design choices in technology as social and political.[41] Technologies that appeared as black boxes, they argued, were the result of a process that began with interpretative flexibility, where various social groups could have competing interpretations (and suggestions) as to what form the technology should take.[42] The closure of technology, a stage that followed interpretative flexibility, marked a stabilization of the

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[37] Merrit Roe Smith, *Harpers Ferry Armory and the New Technology: The Challenge of Change* (Ithaca: Cornell University Press, 1977).
[38] Roe Smith, *Harpers Ferry Armory*, 67-68.
[39] Donald MacKenzie, *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance* (Cambridge: MIT Press, 1990), 385; Merrit Roe Smith, "Technological Determinism in American Culture," in *Does Technology Drive History? The Dilemma of Technological Determinism*, ed. M. Roe Smith and Leo Marx (Cambridge: MIT Press, 1994), 1-35; Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic, 1983).
[40] David Edgerton, *The Shock of the Old: Technology and Global History Since 1900* (Oxford: Oxford University Press, 2007); Trevor J. Pinch and Wiebe E. Bijker, "The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other," *Social Studies of Science* 14, no. 3 (1984): 399-441; Donald MacKenzie, *Inventing Accuracy*; Bruno Latour, *Aramis, or the Love of Technology* (Cambridge: Harvard University Press, 1996).
[41] Pinch and Bijker, "The Social Construction of Facts and Artefacts."
[42] Pinch and Bijker, "The Social Construction of Facts and Artefacts."

interpretations and uses of an artifact along with the erasure of any remaining controversies. The final object did not display the signs of disagreement or alternatives but instead presented a unified front devoid of politics: an embodiment of a development process that had to unfold the way it did.

Moreover, technological development was not restricted to technological choices. As Donald MacKinzie has shown, engineering was physical and social work at the same time. It required engineering people and their perceptions, persuading people to abandon doubt, and providing resources for people to become "users."[43] Notions such as accuracy, reliability, efficiency, and objectivity were not properties of technologies but constructed, made through sets of decisions and technological choices.[44] The black boxing of technology then involved the erasure of labor and politics, making technologies durable and less contested.[45]

Finally, these scholars have advocated for a closer study of development and use through a focus on users, not just developers.[46] Histories of technology that focused on "great men" treated users as passive recipients of technology.[47] Looking at technology and users through the lens of co-construction, a mutual determination of one another, provided an alternative.[48] This body of work showed that users did not precede technologies, but were constituted along with them. There were no "needs" that developers were responding to, only needs that came into existence along with the technologies that could satisfy them. Users were not passive consumers. Although their use of technology was restricted in some ways, they were active participants in the interpretation of technologies and machines.[49]

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[43] Donald MacKenzie, *Inventing Accuracy*, 28.
[44]Donald MacKenzie, *Inventing Accuracy*; Ted Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1995).
[45] Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge: Harvard University Press, 1987). Donald MacKenzie, Inventing Accuracy, 385.
[46] Nelly Oudshoorn and Trevor Pinch, ed., *How Users Matter: The Co- Construction of Users and Technologies* (Cambridge: MIT Press, 2003); David Edgerton, *The Shock of the Old*; Steve Woolgar, "Configuring the User: The Case of Usability Trials," *The Sociological Review* 38, no. 1, Supplement (1990): 58-99.
[47] For example: Ernest Freeberg, *The Age of Edison: Electric Light and the Invention of Modern America* (New York: Penguin Press, 2013); David P. Billington, *The Innovators: The Engineering Pioneers Who Made America Modern* (New York: John Wiley & Sons, 1996).
[48] Oudshoorn and Pinch, *How Users Matter*.
[49] Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1988); Hugh Mackay, Chris Carne, Paul Beynon-Davies, and Doug Tudhope, "Reconfiguring the User: Using Rapid Application Development," *Social Studies of Science* 30, no. 5 (2000): 737-757; Madeleine Akrich, "The De-scription of

History of Computing

Studies of computing and information technology have also tried to supplement historical accounts focused on inventors with broader accounts that include technicians, women, and users.[50] Scholars in this newer field of research have also grappled with articulating the genesis of computing and possible competing histories of the field.[51] This dissertation also builds on the work of scholars of media and materiality who show that information is not medium-neutral and the work of sociologists and historians of information technology who reveal the vast information infrastructures that support contemporary knowledge systems.[52] By examining changes in how a legal case is accessed and evaluated, the project aims to place law alongside other knowledge fields that are supported by an array of people, institutions, and artifacts for their effective and legitimate operation.

However, although historians of computing have written extensively on computers and work, few historical accounts of the interrelations of professional work and computing exist. Much of the recent work in this field focuses on the professionalization of computer people.[53] Even historians who have focused on business and computing history focused on industries or companies, not on professions.[54] Traditional (and less traditional) histories of the computer focus

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Technical Objects," in *Shaping Technology / Building Society: Studies in Sociotechnical Change*, ed. Wiebe J. Bijker and John Law (Cambridge: MIT Press, 1994), 205-224.

[50] Janet Abbate, *Recoding Gender: Women's Changing Participation in Computing* (Cambridge, MA: MIT Press, 2012); Joy Risi Rankin, *A People's History of Computing in the United States* (Cambridge: Harvard University Press, 2018); Nathan Ensmenger, *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise* (Cambridge: MIT Press, 2010).

[51] Michael S. Mahoney, *Histories of Computing*, ed. Thomas Haigh (Cambridge: Harvard University Press, 2011).

[52] Paul Dourish, *The Stuff of Bits: An Essay on the Materialities of Information* (Cambridge: MIT Press, 2017); Lisa Gitelman, *Paper Knowledge: Toward a Media History of Documents* (Durham: Duke University Press, 2013); Cornelia Vismann, *Files* (Stanford: Stanford University Press, 2008); Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge: MIT Press, 2010); Geoffrey C. Bowker, *Memory Practices in the Sciences* (Cambridge: MIT Press, 2006).

[53] Nathan Ensmenger, *The Computer Boys Take Over*; Janet Abbate, *Recoding Gender*; Jeffrey R. Yost, *Making IT Work: A History of the Computer Services Industry* (Cambridge: MIT Press, 2017); Mar Hicks, *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing* (Cambridge: MIT Press, 2018).

[54] James Cortada, *The Digital Hand: How Computers Changed the Work of American Manufacturing, Transportation, and Retail Industries* (Oxford: Oxford University Press, 2004); James Cortada, *The Digital Hand, Volume 2: How Computers Changed the Work of American Financial, Telecommunications, Media, and Entertainment Industries* (Oxford: Oxford University Press, 2005); James Cortada, *The Digital Hand, Volume 3: How Computers Changed the Work of American Public Sector Industries* (Oxford: Oxford University Press, 2007); Joanne Yates, *Structuring the Information Age: Life Insurance and Technology in the Twentieth Century* (Baltimore:

on key innovations and shifts in computing and their users, not on the workforce or the professions.[55] To date, apart from scientists and government bureaucrats, we know little about the ways in which the computer transformed professional work.[56] We lack an examination of how expertise in medicine, science, or law was intertwined with technology and what difference the computer made in terms of judgment, discretion, and trust in experts.

Legal information technologies offer a productive case study for the history of computing. From the early days of OBAR, the question of how information should be stored, organized, and retrieved was interwoven with questions about objectivity, trust, and expertise. The basic opposition between human indexers and "full-text" search has occupied the minds of both lawyers and technicians long before the age of the Google search engine.[57] The promise of access to information without intervention persists in current discussions about how data "speaks for itself."[58] Studying OBAR takes readers to the early days of information technology, when some of these concepts (or misconceptions) were being forged.

This case study also blends the traditional division in the history of information technology between developers and users.[59] In this case, practicing lawyers were engaged in active dialogue about technological choices and priorities, and the resulting code reflected negotiation (and sometimes bitter disagreement) between lawyers and engineers. Tracing the trading zone between lawyers and technologists allows a glimpse into how law was translated into code, and how the affordances and limitations of code shaped what was considered law.[60]

Johns Hopkins University Press, 2005); William Aspray and Paul E. Ceruzzi, ed., *The Internet and American Business* (Cambridge: MIT Press, 2008).

[55] Martin Campbell-Kelly, William F. Aspray, Jeffrey R. Yost, Honghong Tinn, and Gerado Con Díaz, *Computer: A History of the Information Machine*, 4th ed. (New York: Routledge, 2023); Rankin, *A People's History of Computing*; Thomas Haigh and Paul E. Ceruzzi, *A New History of Modern Computing* (Cambridge: MIT Press, 2021).

[56] Jon Agar, *The Government Machine: A Revolutionary History of the Computer* (Cambridge: MIT Press, 2003); Jon Agar, "What Difference Did Computers Make?" *Social Studies of Science* 36, no. 6 (2006): 869-709; Elena Aronova, Christine von Oertzen, and David Sepkoski, "Introduction: Historicizing Big Data," *Osiris* 32, Number 1 (2017): 1-17.

[57] Bourne and Hahn, *A History of Online Information Services*; Zhu, "Innovation in Search of a Context"; Thomas Haigh, "The History of Information Technology," *Annual Review of Information Science and Technology* 45 (2011): 431-487.

[58] Lisa Gitelman, ed.,*"Raw Data" Is an Oxymoron* (Cambridge, MIT Press, 2013).

[59] Bourne and Hahn, *A History of Online Information Services.*

[60] Peter Galison, "Trading Zone: Coordinating Action and Belief," in *The Science Studies Reader*, ed. Mario Biagioli, 137-160 (New York: Routledge, 1991).

Although this case study focuses on lawyers, it can teach important lessons about the nature of trust in computer systems (and expert judgment) and the processes by which professional knowledge is turned into information and professionals into computer users.

Structure

The dissertation is divided into two sections: "Before the Computer" and "The Automation of Legal Research." The first section provides an account of legal research practices before the first communication consoles made their way into law offices around the United States in the 1970s. Building on an array of historical sources such as law office management manuals, bar organization surveys, legal research handbooks, legal cases, bar publications, reports, and correspondence, this section accounts for the materials, technologies, and practices of legal research prior to the 1970s. The second section describes the process of automation of legal research through a focus on OBAR. It traces the reconceptualization of legal research as part of the automation process, the trust-work that accompanied OBAR's development, and the competing notions of credibility and reliability that surrounded the new technology.

Section I is divided into three chapters. Chapter 1, "Tricks of the Trade: Legal Research Technologies and Techniques in the Age of Print," discusses print legal research technologies and techniques. Beginning in the 19th century, it traces how American lawyers learned about court decisions through notebooks and books. Focusing on three key technological developments in the19th century, law reporters, West's Key Number System, and *Shepard's Citations*, the chapter elucidates how innovations in legal publishing rearranged prior practices of research. The chapter also provides an account of legal research instruction since the turn of the 20thcentury. Building on legal research manuals and courses, it captures how legal research was systematized in the first half of the 20th century. While early instruction materials focused solely on the types of law books and how to use them, later instruction materials began to offer a more holistic approach to the methods of legal research. The chapter argues that scholars studying the shift from print to computer in legal research have overemphasized the role of taxonomical systems such as West's Key Number System. Lawyers in this period had to rely on a variety of law books and oscillated between facts and categories in their research. Although "thinking like a lawyer" required

categorical and taxonomic thinking, these skills were central to legal education and jurisprudence and did not depend solely on using a specific system or series of books.

Chapters 2 and 3 supplement Chapter 1 by focusing on practice. Chapter 2, "The Modern Law Firm," describes how law offices changed from the early 20th century to the 1970s. It focuses specifically on lawyers' nonlegal support staff – typists, clerks, secretaries, and legal assistants – to provide an account of the social and institutional aspects of legal research. It shows that legal research was not a distinct task that could be delegated until the mid-1960s when legal assistants began gaining recognition as "paraprofessionals" who could take over the task. Legal research as a distinct task to be delegated coincided with the maturation of paralegals. In addition, the chapter shows that legal secretaries were the main support staff of lawyers between the 1920s and the 1960s. As "generalists," they were in charge of a variety of tasks, including legal tasks, such as drafting legal documents and conducting legal research. The growth of law firms and their bureaucratization led to a reallocation of tasks within the office. As secretaries were stripped of many of their responsibilities, legal research was redefined as a distinct task demanding specialization. Starting in the 1920s, the operation of machinery (specifically typing) divided offices between female workers, who operated machines, and male lawyers, who did not. Machines and typing were also used to create internal hierarchies in the office, such as between typists and private secretaries or secretaries and paralegals. Legal research, combining cognitive and physical work, challenged some of the hierarchical distinctions in the law office.

Chapter 3, "Practices, Habits, Routines," focuses exclusively on legal research practices. Building on surveys by bar organizations in the United States and Canada and sociological studies of the legal profession, it describes how lawyers conducted legal research in the 1960s and 1970s. It argues that contrary to the bookish and solitary image of legal research in the eyes of lawyers and scholars, it was a deeply social endeavor. Lawyers engaged in legal research by talking to their colleagues, consulting books, delegating tasks to junior attorneys or assistants, and relying on their own notes and files. The law office provided the crucial material and social infrastructure that undergirded legal research. Additionally, the chapter captures the variation among lawyers' legal research experience. For the majority of lawyers, legal research occupied a

marginal place in their practice. This was especially true for more seasoned lawyers working in larger firms or lawyers who specialized in a particular field. For others, young solo practitioners in particular, who did not command large office libraries and did not have employees to delegate the research to, it occupied a more central place. For all, the incentives to engage in serious legal research were weak. Legal research was not as profitable as other legal tasks, and for the bulk of lawyers' work, it was not required. The chapter argues that interest in lawyers' legal research practices, particularly among the organized bar, arose with early talk of automated legal research. Legal research was formed into a series of discreet tasks, skills, and habits on the way to automation.

While Section I focuses on legal research practice in the United States and Canada, Section II focuses on a particular legal research system developed in Ohio in the 1960s. The two chapters in Section II trace the initial development and use of the Ohio Bar Automated Research (OBAR) System. Chapter 4 begins with the initial plans to deliver electronic legal research tools to Ohio lawyers by the OSBA. It shows how, initially, the initiative came out of the OSBA's commitment to eliminating professional barriers to a speedier and cheaper justice system. Legal research, the process the OSBA sought to automate with a computerized information retrieval system, was conceptualized as consisting of two parts, the mechanical and the substantive. Only the mechanical part, the physical labor of "hauling books off library shelves," was to be automated. As plans for furnishing such a service took more concrete form and a product for Ohio lawyers was in sight, the focus began to shift. OSBA lawyers adopted the terminology of information retrieval pioneers, distinguishing "end-users" from "information retrieval specialists." The problem the emerging system was meant to solve became the elimination of mediation. The focus on the "intervention" of others (legal publishers, editors, librarians, and technicians) in the legal research process diverted attention away from the computer as a new medium through which lawyers would interact with court cases. This design choice, building a system for lawyers' direct use, led to a series of other choices meant to convince lawyers that they could, in fact, operate the system.

Chapter 5 chronicles how OBAR's developers introduced lawyers to the new system and how lawyers responded to it. It tells this story by following one Cleveland law firm, Arter &

Hadden, through the trials and tribulations of using OBAR for the first time. It focuses on techniques of trust, the strategies that OBAR's developers used to cultivate trust in the OBAR system. By focusing on a lengthy interaction between one of Arter & Hadden's partners and OBAR's developers, the chapter elucidates the competing notions of credibility and trust between users and developers. It argues that OBAR's developers combined various strategies – visual, discursive, social, and institutional – that stressed the experiential aspects of the system and its future promise at the expense of its credibility or validity. It also shows that users were eager to believe the promise of the system despite its disappointing performance. Trust in the new system was produced collaboratively by developers and users who took an active role in cultivating the system's promise while disregarding its pitfalls. Finally, the chapter shows how the introduction of OBAR consoles began to rearrange the division of labor in the law firm and how this process connected to previous developments in technology and gender in the office.

Two excurses supplement Chapters 4 and 5. Excursus 1 zooms in on the promise of an interactive system. It provides a glimpse into the interface that connected Ohio lawyers, legal secretaries, and assistants with the mainframe computer in Dayton. Excursus 2 details some of the tensions between the lawyers and technologists involved in OBAR's development. While the lawyers envisioned OBAR as a service, the technologists viewed it as a product. Excursus 2 also shows how the OSBA gradually faded out of the picture, paving the way to the meteoric success of Lexis under the auspice of Mead Data Central.

Section I: Legal Research Before the Computer

Scholars writing about the adoption of computers by legal professionals have described the transition from paper to computer legal research technologies as a "paradigm shift."[61] They have argued that by trading categories and hierarchical systems of organizing case law for keyword search queries, lawyers gave up a methodical approach honed by years of legal practice.[62] This section argues that we require a better understanding of lawyers' legal practices "before the computer" to assess this claim empirically. This section reconstructs the practices of lawyers and the division of work within law firms and libraries to better understand how legal research was done in pre-1960s America. It shows that the initial interest in legal research *practice*, as opposed to legal research *theory*, arose along with the ambition to automate it. As lawyers and technologists were grappling with the correct terminology, design, and use of computers for legal research, they grew interested in the practice they sought to automate.

Although many places and periods could have been instructive, I chose to focus this section on legal research materials and practice between the 1880s and the 1960s. The goal is to begin building an empirical corpus of knowledge on the practice of legal research as opposed to providing a comprehensive review. I do not cover the entire United States or even detail all the developments in legal publishing, technology, and instruction during this period. My primary concern is to catalog existing evidence and provide an overview of practice through the available evidence.

The section proceeds in reconstructing practice through three major questions: What resources were available to lawyers and legal professionals? Who engaged in "legal research," and what work settings and technologies supported it? What were the habits, routines, and practices of "legal research"?

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[61] Carol M. Bast and Ransford C. Pyle, "Legal Research in the Computer Age: A Paradigm Shift," *Law Library Journal* 93, no. 2 (Spring 2001): 285-302.
[62] F. Allan Hanson, "From Key Numbers to Keywords: How Automation Has Transformed the Law," *Law Library Journal* 94, no. 4 (2002): 563–600.

The section also grapples, particularly in Chapter 3, with the question of method and evidence. The goal of this section is to describe practice to empirically assess claims about the automation of legal research. But tracing and reconstructing practice is not straightforward. In this case, the "methods of discovery," the methods by which we learn about past practices, are intrinsically tied to our perceptions of practice. To know where to look for evidence of practice, we first need to have an idea of what practice was. One of the blind spots of scholarship about legal research, for example, is the exclusion of non-lawyers from the accounts of legal research. To look at law office management books, legal secretary manuals, and case law on the "unauthorized practice of law," we first need to turn our gaze to the larger group of legal professionals that conducted legal research. We need to pay attention to the "epistemic support staff," in the words of Steven Shapin, the community of practitioners that produced knowledge about the law.[63]

[63] Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-century England* (Chicago: University of Chicago Press, 1994).

Chapter 1

Tricks of the Trade: Legal Research Techniques and Technologies and in the Age of Print

In 2002, F. Allan Hanson, a cultural anthropologist at the University of Kansas, published "From Key Numbers to Keywords."[64] In this influential article, Hanson argued that when lawyers switched from relying on books to relying on information retrieval systems, they also traded one concept of the law for another. While print legal research was anchored in categories and hierarchical classifications, electronic legal research was devoid of systematic thinking and relied on isolated words.

Hanson's paradigmatic example of print legal research was West Publishing Company's Key Number System, a classification system that imposed a hierarchical schema on reported court decisions. These categories were not just for locating case law. Some scholars argued that West's categories undergirded the first-year law school curriculum and were synonymous with "thinking like a lawyer."[65] Unlike the Key Number System, argued Hanson, the computer was organized according to an indexical, not classificatory, approach. It was an assortment of words and cases, not a system with an inner logic.

Importantly, Hanson argued that these differences translated into different concepts of "the law." While print research sources fostered a view of the law as a separate domain, organized hierarchically under basic principles, computerized legal research conveyed an image of the law as less distinct: "a relatively unorganized assortment of facts and doctrines."[66] In other words, the turn to computers in legal research ushered in a concept of law that was loosely organized and not sufficiently distinct from other domains. While the dissertation as a whole tackles the transformation from print to computers in legal research, this section focuses on the

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[64] F. Allan Hanson, "From Key Numbers to Keywords: How Automation Has Transformed the Law," *Law Library Journal* 94, no. 4 (Fall 2002): 563–600.
[65] Hanson, "From Key Numbers to Keywords," 563; Robert C. Berring, "Collapse of the Structure of the Legal Research Universe: The Imperative of Digital Information," *Washington Law Review* 69, no. 1 (January 1994): 22; Barbara Bintliff, "From Creativity to Computerese: Thinking Like a Lawyer in the Computer Age," *Law Library Journal* 88, no. 3 (Summer 1996): 343.
[66] Hanson, "From Key Numbers to Keywords," 563.

first part of Hanson's claim – namely that the era of print legal research technologies, a time "before the computer," was synonymous with a systematic approach to law and legal research.

Hanson's "From Key Numbers to Keywords" is but one in a series of articles devoted to the transformations in legal research and legal reasoning resulting from the greater reliance on computers in legal research. Two scholars in particular have led this direction of research and analysis since the late 1980s: Robert C. Berring and Ethan Katsh. Berring, a prominent librarian and law professor who directed the law library at the University of California, Berkeley, approached the issue through the lens of library and information science.[67] Katsh, a professor of legal studies at the University of Massachusetts at Amherst, approached the issue through the lens of media and communication.[68] Despite different departure points, both Berring and Katsh argued that form shaped substance: that the changes in the way law was published and mediated molded legal concepts and the importance of precedent.[69] Other scholars writing in this period reached similar conclusions.[70]

Interestingly, as scholar Susan Brenner had shown, the computer was not the first technological innovation where "form molded substance."[71] An equally transformative innovation was the move to comprehensive reporting at the end of the nineteenth century. Under the British model of selective reporting, adopted initially in colonial America, only a few key decisions were published. Comprehensive reporting, pioneered by the West Publishing Company at the turn of the century, meant that there was no editorial selection of precedents. It made every decision, no matter how marginal or particular, into a precedent. This seemingly formal change in the number of published (and thus accessible) court opinions meant that the legal field moved

[67] Berring is an extraordinarily prolific author who has written extensively on legal information databases and legal research. The two articles cited here are but a small (and early) part of his voluminous body of scholarship on this topic. Robert C. Berring, "Full-Text Databases and Legal Research: Backing into the Future," *High Technology Law Journal* 1, no. 1 (1986): 27-60; Robert C. Berring, "Legal Research and Legal Concepts: Where Form Molds Substance," *California Law Review* 75, no. 1 (1987): 15–28.
[68] M. Ethan Katsh, *The Electronic Media and the Transformation of Law* (New York: Oxford University Press, 1989).
[69] Berring, "Legal Research and Legal Concepts"; Katsh, *The Electronic Media and the Transformation of Law*.
[70] Susan W. Brenner, "Of Publication and Precedent: An Inquiry into the Ethnomethodology of Case Reporting in the American Legal System," *DePaul Law Review* 39 (1990): 461-542; Richard Delgado and Jean Stefancic, "Why Do We Tell the Same Stories?: Law Reform, Critical Librarianship, and the Triple Helix Dilemma," *Stanford Law Review* 42, no. 1 (1989): 207–25.
[71] Brenner, "Of Publication and Precedent."

from relying on the expert judgment of legal publishers to an ever-expanding terrain of court opinions.[72] This meant that lawyers switched from mastering a few key precedents or reasoning based on legal principles to spending significant resources to locate and follow court opinions. Judges had to sort through a contradictory body of law and resolve inconsistencies.

This chapter argues that legal research in the early twentieth century cannot be accurately characterized as relying solely on categories and first principles. I show that scholars writing on the transition from print to computer have overemphasized tools such as West's Key Numbers system. Lawyers combined many types of law books, both granular and general, as well as their own notes and files, and bar association publications, in their assessment of legal cases. West's Key Numbers were not the only (and in some cases not even the dominant) way to find and assess relevant case law. However, this did not mean that technological changes were insignificant. As the discussion in the first section of this chapter makes clear, technological innovations in legal research like official reporting, West's Key Number System, and *Shepard's Citations*, involved the renegotiation of legal research tasks. Some technological innovations like the digest meant that work which had traditionally been done by lawyers was taken up by editors, digesters, and reporters. Other innovations, like *Shepard's Citations*, did not initially lessen the load on lawyers. Legal research technologies were thus arenas where the work of legal research (and the expertise required to do it) was constantly renegotiated.

To describe the resources lawyers used to conduct legal research, I draw on print technologies like the digest and the citator, legal research instruction manuals, bar association services, and information management techniques. First, I describe the innovations in legal research in the nineteenth century by focusing on developments in law reporting and the perfection of two significant legal research technologies in the 1880s: West's *American Digest* System and *Shepard's Citations*. I show that technological innovation in legal research went hand in hand with the splintering and redistribution of legal research tasks. Second, I describe legal research instruction and training in the first half of the 20th century. Drawing on legal research manuals, I show how lists of the types of legal books gave way to a more methodological

[72] Brenner, "Of Publication and Precedent"; Berring, "Legal Research and Legal Concepts"; Hanson, "From Key Numbers to Keywords."

approach to legal research during the first half of the 20th century. Although legal research solidified as a distinct activity during this period, its foundation remained unchanged. Lawyers were trained to work with a multiplicity of print tools, in a latticework of facts, principles, and categories. Lastly, I survey the additional resources that supported lawyers' work by focusing on bar associations' services and lawyers' information management techniques. The chapter is meant to provide a snapshot of the resources available to lawyers, including books, training manuals, services, and techniques, up until the 1960s in America.

Legal Literature and Print Legal Research Technologies: A Brief American History

American legal literature, a collection of court opinion reports, citation indexes, digests and abridgments, treatises, manuals, practice and form books, and law periodicals, had matured over two centuries before the arrival of the first digital computers in the mid-20th century. This section surveys the developments in American legal literature with the aim of providing historical context (and vocabulary) for the upcoming chapters. It shows how technological innovation in legal research was bound with questions of labor and expertise since the late 18th century. It discusses the development of official law reporting and the development of two main print legal research technologies: the digest and the citation index.

Law Reporters: From Manuscripts to Official Reporting

Initially, American lawyers had no choice but to follow English precedents, texts, and traditions. Although common law in England was an oral tradition, written "reports" of what lawyers and judges said dated back at least to the 11th century in the form of "plea rolls," which were parchment rolls with brief summaries of pleadings before the court.[73] More detailed reports appeared in the 13th century, first circulating in manuscript form and, later, in printed editions that we now refer to as Yearbooks.[74] These reports were often written by lawyers or legal

[73] Morris L. Cohen, "An Historical Overview of American Law Publishing," *International Journal of Legal Information* 31, no. 2 (2003): 169.
[74] A database of Year Books, 1268-1535, is maintained by Professor David J. Seipp from Boston University School of Law at https://www.bu.edu/law/faculty-research/legal-history-the-year-books/.

apprentices, evidenced by their focus on pleadings at the expense of judges' decisions.[75] The term "reports" was intentional. These were reports of what happened at the kingdom's courts, nothing more. Law reporting came to denote the activity of capturing and disseminating court decisions in the United Kingdom and, later, in the United States.

In America, law reporting was scarce well into the nineteenth century.[76] In the colonial period, there was no American legal literature to speak of. Like English lawyers, colonial American lawyers relied on English reports and law texts. The English approach was to report a limited number of key decisions. This meant that lawyers had a limited array of authorities to draw on. When law books became more common in the 18th century, they were mostly imported English practice manuals, not reports of decisions.[77]

In the 1790s, the first collections of court decision reports were published in Connecticut, Pennsylvania, Vermont, and Virginia.[78] Little by little, Supreme Court decisions began to appear in print, too. The practice was still being developed – few reports had "official status," and many were based on the collections of judges or complied with their cooperation. The reports were still written accounts of a primarily oral court culture. The term "Reporters" referred to both books and people, describing the volumes and the people who compiled them. By 1810, 18 volumes of American reports had been published covering Supreme Court decisions and those of state courts in Massachusetts, New York, and New Jersey.[79] These reports, modeled after English reports, were "guidebooks for the practitioner," complete with observations and short essays.[80]

Still, American lawyers did not rely primarily on these newly-published reports. English reports and treatises were still very common. American lawyers also drew heavily on their localized and practical knowledge of local statutes, practices, and cases. Occasionally, lawyers

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[75] Peter M. Tiersma, *Parchment Paper Pixels: Law and the Technologies of Communication* (Chicago: The University of Chicago Press, 2010), 178-179; William Searle Holdsworth, *Sources and Literature of English Law* (Oxford: Clarendon Press, 1925), 74-75.
[76] Lawrence M. Friedman, *A History of American Law*, 4th ed. (New York: Oxford University Press, 2019), 605.
[77] Friedman, 71.
[78] Friedman, 308-9.
[79] Friedman, 309, 605.
[80] Friedman, 309; Patti Ogden, "Mastering the Lawless Science of Our Law: A Story of Legal Citation Indexes," *Law Library Journal* 85, no. 1 (1993): 3.

relied on manuscript volumes of reports.[81] Lawyers and judges prepared their own collections of local cases in manuscript or commonplace books.[82] Although these were privately prepared, they circulated among lawyers and judges who made copies or took them on loan. A surviving collection of such private notebooks, an assortment of Delaware cases decided between 1792 and 1830, provides an example of these early reporting practices.[83] These were not "official reports" by any measure. They were written in haste, sometimes with a partisan interest, and used idiosyncratic abbreviations. Usefulness sometimes outweighed completeness, as in the case of Clayton's Notebook, where the desire to keep the volume pocket-size compromised the legibility and fullness of entries.

Such collections of cases in notebooks and manuscripts served the preparers of the early legal research tools that began gaining popularity in the 1820s. Nathan Dane, a lawyer who composed the *General Abridgement and Digest of American Law* in the 1820s, reported he relied on many cases reported in "manuscript form," which were still the majority.[84] When Simon Greenleaf developed the first American citation index, he relied on the personal notes of his friend, Supreme Court Justice Joseph Story.[85] These tools were a response to the growth in official reports – American law reports totaled 450 in 1836.[86]

The 1820s and 1830s also saw the publication of law books written specifically for American lawyers.[87] At first, these were "American editions" of English books. American booksellers and jurists annotated and updated the English books with reference to American decisions and discussed American innovations in appendices. Starting in the mid-1830s,

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[81] Friedman, 308.
[82] Friedman, *A History of American Law*, 308. Erwin C. Surrency, *A History of American Law Publishing* (New York: Oceana Publications, 1990), 37-38; Paul Halliday documented similar "precedent books," prepared by the clerks of the King's Bench court in 18th-century England. These books were compact records of decided cases and common procedures. Paul D. Halliday, "Authority in the Archives," *Critical Analysis of Law* 1, no. 1 (2014): 110-142.
[83] Daniel J. Boorstin, ed., *Delaware Cases, 1792-1830* (St. Paul: West Publishing Company, 1943). Additional examples of notebooks prepared by lawyers and judges can be found in Paul M. Pruitt, Jr. and David I. Durham, *Commonplace Books of Law: A Selection of Law-Related Notebooks from the Seventeenth Century to the Mid-Twentieth Century* (University of Alabama School of Law, 2005).
[84] Surrency, 38.
[85] Ogden, "Mastering the Lawless Science of Our Law", 3.
[86] M. Ethan Katsh, *The Electronic Media and the Transformation of Law* (New York: Oxford University Press, 1989), 45.
[87] Friedman, *A History of American Law*, 311.

however, American lawyers published original treatises on evidence, damages, corporations, and international law, as well as a popular introduction to American law.[88]

Internal hierarchies began to develop in the growing American legal literature. Treatises were considered more expertly composed and prestigious than "loosely organized works" such as Dane's *General Abridgement.*[89] Big states and famous judges were considered more authoritative than others. Two justices in particular, Joseph Story and James Kent, had a significant following, and their *Commentaries* were held in high regard.[90] Interestingly enough (and unlike in later periods), both lawyers and judges drew on cases of other states' courts in their briefs and decisions. Other legal resources such as local practice manuals, simple form books, and a few periodicals joined the emerging corpus of American legal literature but were considered of lower status than the more practically-oriented and expertly-written reports and treatises.[91]

During the nineteenth century, court reporting began to formalize.[92] More and more, private reporters and unofficial reports gave way to appointed reporters and official reports. Although official reports tended to be more complete, more accurate, and standardized, they came at the expense of the style and creativity that characterized the earlier reports. The official reports were a form of statecraft—they enabled states to distinguish themselves, through published decisions and opinions, from the English and other states.[93]

The shift from unofficial to official reports was also a matter of bolstering the stance of the court and its control of the publication of its spoken words. The tradition of referring to reports by the name of the reporter was replaced with using the name of the deciding court.[94] A controversy between two appointed reporters, Henry Wheaton and Richard Peters, provided one

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[88] Friedman, 313.
[89] Friedman, 313.
[90] Friedman describes their immense popularity, which greatly exceeded any legal scholars of the time. Friedman, 314.
[91] Friedman, 313.
[92] Friedman, 310. An earlier development, from the late eighteenth century, was a statutory requirement of writing judges' decisions and not merely delivering them orally. But the requirement varied across states, and in some states, written decisions resulted from voluntary decisions of the courts rather than binding statutes. Surrency, 42.
[93] Friedman, *A History of American Law*, 310.
[94] John C. Townes, *Law Books and How to Use Them* (Austin: Austin Printing Company, 1909), 39. Surrency, 45.

of the first Supreme Court rulings on copyright and explicitly discussed the copyright status of court opinions.[95] Wheaton, the third US Supreme Court reporter, sued Peters, his successor in reporting, for significantly shortening Wheaton's reports in a new, abridged version. The court famously ruled that "no reporter has or can have any copyright in the written opinions delivered by this Court," thus excluding the text of court opinions from copyright protection.[96] Once the court claimed reports by making them "official," no particular reporter could claim ownership of the text. Although unofficial reports continued to exist (opinions, after all, were not subject to copyright per the court decision), they competed with the official ones not on reporting the decision (which was identical across the official and unofficial reports) but rather in editorial content such as the headnotes or the statements of the case.[97]

By the second half of the nineteenth century, law reporting and law publishing had begun growing exponentially. By 1885, almost 4,000 volumes of American reports were in existence, and by 1910, this number doubled.[98] The worry over too few American authorities gave way to worry over too many. In the eyes of one contemporaneous author, this was not merely a matter of quantity. He protested that the "vast accumulation of reported cases" pushed lawyers toward searching for "a precedent exactly on point," at the expense of analyzing the "underlying principle" of law.[99] An American Bar Association report from 1895 on law reporting lamented the "enormous increase in the number of the reports" and criticized the unnecessary duplication resulting from the publication of the same material in different series of reports.[100] It also reported on a recent calculation by the Virginia Bar Association which showed that a lawyer

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[95] *Wheaton v. Peters*, 33 U.S. 591 (1834).
[96] *Wheaton v. Peters*, 33 U.S. 591 (1834), 668.
[97] Townes, *Law Books and How to Use Them*, 40-41.
[98] Friedman, *A History of American Law*, 605.
[99] J. H. High, "What Shall Be Done with the Reports?" *American Law Review* 16, no. 6 (June 1882): 439. This particular complaint is reminiscent of Hanson's (and others') argument about the overemphasis of facts at the expense of principles. It shows that arguments about quantity were entangled in notions of quality and mastery much earlier than the 1960s.
[100] J. Newton Fiero et al., "Report of the Committee on Law Reporting," *Annual Report of the 18th Annual Meeting of the American Bar Association* (1895): 343-361, 353. Although the number of reports grew significantly during this period, the report also indicated that concerns about the number of published reports were long-standing. The report mentioned that Sir Edward Coke, an English barrister and judge and the compiler of the renowned *Coke's Reports* in the seventeenth century, "lamented the existence of as many as fifteen volumes of reports." A century later, Matthew Bacon, an English lawyer and the author of the popular *Bacon's Abridgment*, complained of the expanding number of reports, by then totaling fifty or sixty volumes. He considered the "evil" so great as to require "a recompiling of the common law" (344).

would have needed to read 200 pages a day, 300 days a year in order to read all the reports published in the United States.[101]

Secondary and tertiary sources grew, too. In addition to the 1,000 treatises published in the second half of the nineteenth century, the two most famous and (long-lasting) print legal research technologies were developed during this period: West's *American Digest* System and *Shepard's Citations*.[102]

West Publishing Company and the American Digest System

John B. West first made a name for himself by publishing reports. The roots of West's famous National Reporter System were laid in the *Syllabi*, a weekly publication containing summaries and full decisions of the Supreme Court of Minnesota.[103] West, the son of two New Englanders, arrived in St. Paul, Minnesota, when his father was offered the job of paymaster of the Lake Superior & Mississippi Railroad Company there in 1870.[104] At the age of 18, West found employment as a traveling salesman with the D. D. Merrill Book Store.[105] As part of his work, he traveled to frontier towns to take orders for office supplies and equipment as well as legal and medical books.[106] In 1872, West decided to open his own publishing business, focusing on services for the local bar. He sold treatises, dictionaries, office supplies, and new and used court reports.[107] He also published legal forms, reprinted rare treatises, and prepared an index to the Minnesota statutes.[108] In 1876, along with his brother, Horatio, West began publishing *The Syllabi*.[109]

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[101] Fiero et al., 345.
[102] Cohen, "An Historical Overview of American Law Publishing," 168-178.
[103] Surrency, 49.
[104] Robert M. Jarvis, "John B. West: Founder of the West Publishing Company," *American Journal of Legal History* 50, no. 1 (2010): 4.
[105] Thomas A. Woxland, "Forever Associated with the Practice of Law: The Early Years of the West Publishing Company," *Legal Reference Services Quarterly* 5, no. 1 (Spring 1985): 115.
[106] Jarvis, "John B. West," 4.
[107] Woxland, "Forever Associated with the Practice of Law," 115.
[108] Jarvis, "John B. West," 4.
[109] Jarvis, 6.

In the first issue, the West brothers wrote that *The Syllabi* was meant to provide regular and prompt updates on the decisions of the Supreme Court of Minnesota.[110] It contained the syllabus of each decision (a brief statement of the point of law adjudicated) of the Supreme Court of Minnesota, an abstract of the decision, and, if the decision was particularly important, its full text. The first issue also promised to publish federal and district court decisions in Minnesota and opinions from other states. An immediate success, *The Syllabi* was renamed the *North Western Reporter* merely six months after its first issue. After initially offering a combination of Minnesota and Wisconsin decisions, the *North Western Reporter* was expanded to cover the Supreme Courts of Iowa, Michigan, Minnesota, Nebraska, Wisconsin, and the Dakota Territory in 1879.[111] The weekly publications were gathered into printed volumes twice a year.[112]

In 1882, the West brothers, along with two investors, incorporated West Publishing Company.[113] In 1883 and 1885, regional reporters for the Pacific and the Northeast followed.[114] In 1885, West also announced the publication of the "National Reporter System," with four additional reporters (the Atlantic, Southwestern, Southeastern, and Southern) covering the remaining parts of the country.[115] Within two years, West's regional reports had national coverage. Although official state reports existed in many of the states covered under West's National Reporter System, they lagged behind and varied in quality and style.[116] West's regional reports were fast, published in a matter of weeks, not years, and were relatively inexpensive. The format of sending weekly publications (later known as "advanced sheets"), which were bound into permanent volumes later, made the operation quick and profitable.

West's greatest innovation quickly followed. In 1887, John West announced a plan to catalog every case according to his "American Digest Classification Scheme."[117] The West's Digest System was based on an earlier system, Little, Brown, and Company's *United States*

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[110] *The Syllabi*, Oct. 21, 1876, 1.
[111] Jarvis, "John B. West," 6. Woxland, 116.
[112] Surrency, 49.
[113] Jarvis, "John B. West," 7.
[114] West Publishing Company, "The National Reporter System: A Historical Retrospect," *West Publishing Company's Docket* 1, no. 27 (1912): 645-668, 649.
[115] West Publishing Company, "The National Reporter System," 649.
[116] Woxland, "Forever Associated with the Practice of Law," 119.
[117] Jarvis, "John B. West," 8.

Digest, published since 1847.[118] In 1890, after acquiring the newly-prepared edition of *United States Digest* from Little, Brown, West Publishing Company renamed it *American Digest*. Unlike the regional reporter system, which was published chronologically, *American Digest* introduced a taxonomic system of classification. The result was a systematic and hierarchical approach to case law that shaped legal training and practice for years to come.[119]

West's products, both the *National Reporter* and *American Digest*, were labor-intensive. The complexity of West's operation and the amount of personnel required to produce its popular products were documented in a pamphlet titled "Law Books by the Million," published in 1909.[120] The pamphlet provided a visual and textual tour of West's building in St. Paul, Minnesota. Built on the side of a hill and flooded with "strong southern sunshine," the building had nine floors. The proofreading department occupied the entire top floor. The proofreaders (female) occupied twenty separate rooms. Every page was read twice by different expertly-trained readers, with detailed rules on "style" and composure so that the volumes would be uniform.[121] A composing room and a stereotype room shared the eighth floor. The composing room was populated by printing presses, type-setting machines (Linotypes), and the workmen who operated them.

The seventh floor was occupied by the editorial department. It was here that editors, revisors, digesters, and annotators (all lawyers) rubbed elbows with each other.[122] Here, too, an elaborate code of instructions governed the work of these editors, who examined and revised each report. These editors were supported by an expansive staff of clerks (who fetched the manuscript material the editors needed from the fireproof room in which it was held) and stenographers. They were also supported by an entire department of assistants, composed of 150 workers, mostly "young women." The assistants worked as verifiers, copy-preparers, record-

[118] Woxland, "Forever Associated with the Practice of Law," 120.
[119] Hanson, "From Key Numbers to Keywords," 563; Berring, "Collapse of the Structure of the Legal Research Universe, 22; Bintliff, "From Creativity to Computerese," 343.
[120] West Publishing Company, *Law Books by the Million: An Account of the Largest Law-Book House in the World, the Home Establishment of the National Reporter System and the American Digest System* (1909).
[121] West Publishing Company, 4.
[122] West Publishing Company, 9.

keepers, copyists, and general assistants.[123] The fourth floor housed the bindery, where books were assembled into their final form, stitched and bound in solid sheep skin.[124]

The opinions came from all the states in manuscript form.[125] These manuscripts were then funneled through West's publishing system: they were recorded, classified, headlined, edited, corrected, checked, and proofread. An editorial library, "probably one of the most completely equipped reference law libraries in the country," supported the editorial and assistant departments.[126] The bottom floors housed the press room and the storage vaults, serving the pressmen. In the pressroom, the "busy and heavy" machines, which ran day and night, produced the "printed records of judicial decisions."[127] The storage vaults, which extended for a quarter of a mile underground, stored the metal printing plates. The lowest floor of all housed the boiler and engine rooms.

One of the reasons that these products required expansive personnel was because they involved a transfer of certain research tasks from lawyers to West's employees. The author of a popular research manual from the same year (1909) illustrated this transfer with the following example.[128] Say a person seeks a lawyer's advice on a commercial case. If our lawyer wishes to find previous Supreme Court decisions on the topic, he can turn to the United States Supreme Court Reports, over 200 volumes at the time of writing. Looking through all the volumes would be time- and labor-intensive. But, if he had a digest, "the labor of finding the cases and arranging them has been done for him."[129] The preparers of the digest collected and arranged the decisions systematically under the appropriate headings and topics. All the lawyer had to do was take the digest, find the appropriate topic, and locate the exact point of law. Using the digest's pointers, the lawyer then selected the volume with the decision and opened it to the page indicated in the digest to find the case "on point."[130]

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[123] West Publishing Company, 12
[124] West Publishing Company, 21.
[125] West Publishing Company, 12.
[126] West Publishing Company, 13.
[127] West Publishing Company, 14.
[128] Townes, *Law Books and How to Use Them*, 39.
[129] Townes, 39.
[130] Townes, 39. Surrency, 85-86.

West's reporters and digests were not only new products. They ushered in a new concept of law that altered the role of precedent. West's choice to publish all decisions was a departure from the English tradition of reporting selected decisions and was hotly-contested by other American legal publishers at the time.[131] John West and James E. Briggs, the Lawyers' Co-operative Publishing Company president, debated this topic in an American law review symposium in 1889.[132] While both publishers wished to make the decisions of the court more accessible to lawyers, they differed in strategy: West wished to arm lawyers with all decisions while Briggs thought that publishing all decisions would simply overwhelm lawyers and would not facilitate their knowledge of the current law.[133] Comprehensive publishing, which came to prevail, meant that each court decision could be considered precedent and encouraged lawyers to forever search for more authorities, no matter how obscure.[134] West's expensive operation was needed more than ever.

Shepard's Citations

The second print legal research technology developed in the 1880s was the citation index. Although earlier tools for ascertaining a case's authority existed, none were as ambitious or long-lasting as *Shepard's Citations*. Citation indices sought to solve another problem that intensified with the growth of law reporting—the possibility that a case's authority would be diminished by a later case. In a world of few precedents, the problem was not acute. But the growth of American law reports necessitated more systematic solutions. Even after a relevant case was located with the aid of a digest, treatise, or practice book, lawyers had to ascertain whether it was still "good law."

In the early 1800s, lawyers found connections between cases by consulting the table of cited cases printed in the volumes of law reports. Greenleaf, the first and only attorney in a remote Maine town, developed his systematic review of overruled cases after an English case he

[131] Brenner, "Of Publication and Precedent," 495-496; Jarvis, "John B. West," 9-10.
[132] "A Symposium of Law Publishers," *American Law Review* 23, no. 3 (1889): 396-415; Jarvis, "John B. West," 9-10.
[133] Thomas J. Young, Jr., "A Look at American Law Reporting in the 19th Century," *Law Library Journal* 68, no. 3 (1975): 301-302.
[134] Brenner, "Of Publication and Precedent."

relied upon in his arguments before the court was found to be overruled and thus of no authority.[135] Like other lawyers of his generation, Greenleaf drew on both American and English reports. Resources were sparse, however, and a partial collection of reports meant that one was always in danger of relying on a case that had been overruled. Greenleaf's 1821 *A Collection of Cases Overruled, Doubted, or Limited in Their Application* offered a solution. It organized cases alphabetically and briefly noted their holdings and how subsequent decisions treated them.[136] A stand-alone book, a working tool that connected court decisions with later decisions that altered their authority, was a novelty.[137] After Greenleaf, lawyers and publishers attempted to create similar tools, but these were of limited geographical scope or were not updated regularly.

In 1875, Frank Shepard, a legal books salesman, began publishing a new type of citator. Before he published his *Illinois Citations* in 1875, Shepard worked as a salesman for the legal publishing house E. B. Myers & Co. in Chicago, where he learned the ropes of legal citation.[138] Shepard's citator was different in form and content from previous citators. First, Shepard's citators consisted almost entirely of numbers. A row of two numbers, one for the volume and one for the page of the cited case was followed by a horizontal line, which was followed by subsequent rows of numbers denoting the volume and page number of the cases that had cited it. There was no indication of how cases were treated (overruled? doubted?), only that they were mentioned.

Shepard's second innovation was the materials he used. He printed his citations on sticky paper, meant to be cut and then affixed to the margins of the cited case in the reports.[139] His model was lawyers' practice to jot down notes on a later treatment of a case in the margins of the

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[135] Ogden, "Mastering the Lawless Science of Our Law," 2. Simon Greenleaf, *A Collection of Cases Overruled, Denied, Doubted or Limited in their Application Taken From American and English Reports* (Portland: Arthur Shirley, 1821); Fred R. Shapiro, "Origins of Bibliometrics, Citation Indexing, and Citation Analysis: The Neglected Legal Literature," *Journal of the American Society for Information Science* 43, no. 5 (1992): 337–39; Nathan Dorn, "Collection Highlights: Simon Greenleaf and the First American Legal Citation Index," Library of Congress Blogs, September 21, 2022, https://blogs.loc.gov/law/2022/09/collection-highlights-simon-greenleaf-and-the-first-american-legal-citation-index/#:~:text=Greenleaf's%20citator%2C%20A%20collection%20of,from%20American%20and%20English%20reports.

[136] Greenleaf, *A Collection of Cases*.

[137] Fred R. Shapiro, "Origins of Bibliometrics, Citation Indexing, and Citation Analysis," 337–39.

[138] Odgen, "Mastering the Lawless Science of Our Law," 27.

[139] Odgen, 28.

printed volumes.[140] Shepard assumed that it would not be lawyers who would complete this tedious routine, writing that the "work can be done by any office boy, it being impossible to make mistake [*sic*]."[141] Initially, then, Shepard's citations were meant to update existing printed volumes, not add more volumes to a lawyer's shelf. Within a few years, however, Shepard began publishing his citations in bound volumes, although these did not replace the gummed slips until well into the 20th century.[142]

After its founder's death in 1900, the Frank Shepard Company moved its headquarters to New York City and continued its expansion into additional states.[143] It dropped the adhesive format in favor of books. In 1947, the company's headquarters moved again, this time to Colorado Springs.[144] By the 1950s, Shepard's citators for every state (except for Nevada and Mississippi), regional reporters, and the U.S. Supreme Court were published regularly. Although Shepard's citations had competitors, none were as consistent.[145] In 1966, the company was purchased by McGraw-Hill, a publishing company.

Shepard's was probably the least sophisticated citation index of his time, offering no guidance to the lawyer beyond a meticulous list of citations.[146] Compared to Greenleaf's volumes, an expertly edited working tool developed by a lawyer for other lawyers, Shepard's volumes only rearranged existing information in a new way. What Shepard's lacked in content, he made up for in speed and consistency. The persistent problem of citators such as Greenleaf's was that because they required much editorial work (one had to read the cases!), they were slow to update or were never updated. Shepard's citator success proved that lawyers preferred recently-updated volumes over expertly-composed ones. Legal scholars attributed the immense success of Shepard's citations to the reliability, speed, and consistency of his system.[147]

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[140] Betty W. Taylor and Robert J. Munro, eds., *American Law Publishing, 1860-1900: Historical Readings* (Dobbs Ferry: Glanville Publications, 1984), 344; Laura C. Dabney, "Citators: Past, Present and Future," *Legal Reference Services Quarterly* 27, no. 2-3 (2008): 167.
[141] Surrency, 182, quoting "Directions" in Shepard's *National System of Adhesive Annotations - Arkansas Decisions* (1891).
[142] Dabney, "Citators," 167.
[143] Surrency, 182.
[144] Surrency, 183; Dabney, "Citators," 167.
[145] Odgen, "Mastering the Lawless Science of Our Law," 28-29.
[146] Odgen, 28.
[147] Odgen, 28-29.

Unlike the digests' editors, who took some of the work lawyers used to perform upon themselves, Shepard's citations involved minimal judgment. Lawyers still had to do the substantive work of figuring out how cases related to one another and whether a certain case was the prevailing law. "Shepardizing a case," the verb that came to denote the action of using Shepard's citator to check how subsequent cases treated a certain case, was a crucial part of legal research that generations of students were trained in.

Although Shepard's basic format lasted until the digital age, it had to adapt. Almost since its introduction, Shepard's was used by the two largest legal publishing businesses of the time: West Publishing Company and Lawyer's Cooperative Publishing Company.[148] Westlaw and Lexis, the two major American legal information services, began to offer Shepard's in a digital format in the early 1980s. Shepard's did not develop its own online product, possibly because it was now owned by a book publishing company and had an established business model that many depended on. Instead, Shepard's leased its data. This allowed both Lexis and Westlaw to offer Shepard's citations as part of their services. Shepard's unilateral control of the citation market also posed two problems. First, the two companies, fierce competitors, worried that one company would purchase Shepard's and have a huge advantage over the other.[149] Second, Shepard's was still operating according to print-age timetables. While court decisions in both Lexis and Westlaw were published within days, Shepard's citations were published in regular intervals, creating a significant lag between the current databases of both services and their citators.[150]

The fear of depending on Shepard's and the lag in publication pushed Lexis and Westlaw to develop their own digital alternatives. Mead Data Central (Lexis's owner at the time), West Publishing, and even the Lawyer's Cooperative Publishing Company (which was still a print company, but aligned itself with Lexis, not West) all had internal in-house citation systems used by their editors.[151] These systems quickly extended to products for customers in the mid-

[148] Dabney, "Citators," 168.
[149] This was particularly true after an internal study in West Publishing Company estimated that developing a similar product would take seven years and would cost in excess of three million dollars: Dabney, 171.
[150] Dabney, 169.
[151] Dabney, 168.

1980s.[152] Finally, in 1996, Shepard's was purchased by Times Mirror Co. and Reed Elsevier, which purchased Lexis merely two years prior.[153] After an initial deal of holding joint ownership of Shepard's, Times Mirror sold Shepard's in its entirety to Reed Elsevier in 1998, bolstering Reed Elsevier's control of the legal information services market even further.[154]

Shepard's nineties edition embraced editorial work. Using color-coded symbols, Lexis, who by then owned Shepard's, offered specific guidance on the later treatment of a case.[155] A team of "attorney-editors" assessed court cases and determined whether they were treated positively or negatively by later cases. In a fast-paced digital information environment, Shepard's was pushed to become an even faster and more comprehensive tool. It came to depend on the kind of expansive operation that West pioneered, with its staff, legal and non-legal, taking over a task that was once the purview of practicing lawyers.

How to Find the Law: Legal Research Manuals and Instruction in the First Half of the 20th Century

Early instruction materials in legal research focused on describing the differences between different types of law books and their appropriate uses. Their primary authors were prominent law librarians and legal book publishers. Although some manuals were used by practitioners, many of the manuals were used as textbooks for the early courses in legal bibliography that began to emerge in American law schools in the 1920s. This early emphasis on bibliography gradually gave way to a more refined legal research process as the century progressed. Both in the classroom and in written manuals, legal research matured into a more systematic search for legislation and case law. As late as the 1960s, however, research manuals still recommended a few possible legal research methods, each tracking a type of legal book.

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[152] Dabney, 169.
[153] Patrick Lee, "Times Mirror to Boost Its Legal Publishing Unit with Shepard's," *Los Angeles Times*, July 4, 1996. https://www.latimes.com/archives/la-xpm-1996-07-04-fi-21065-story.html
[154] Felicity Barringer, "Times Mirror Sells Legal Unit to British-Dutch Publisher," *New York Times*, April 28, 1998, https://www.nytimes.com/1998/04/28/business/the-media-business-times-mirror-sells-legal-unit-to-british-dutch-publisher.html.
[155] "Shepard's Citation Guide Part 1: The History," September 16, 2022, LexisNexis.com, https://www.lexisnexis.com/community/insights/legal/b/product-features/posts/shepards-citation-guide-part-1-history#:~:text=History%20of%20Shepard's%20Citations,case%20treatment%20in%20the%20margins.

Although some general principles could be distilled by the 1960s, these manuals recommended combining a few types of books to find authoritative law.

Importantly, these manuals taught law students and practitioners that authority was something to be determined, not assumed. And that the authority of a legal claim depended on its source. Even if the same case was discussed in a report, digest, or treatise, one had to understand the differences between them, how they were crafted, and only then deduce the authority of a claim made by their compilers. Understanding the process of preparing law books was thus inseparable from teaching students and practitioners how to utilize them correctly.

Manuals and handbooks, often published without an author, "codify the knowledge of a working community."[156] With their emphasis on practical knowledge and the goal of capturing existing knowledge, manuals and handbooks are good sources for studying the know-how of scientific and professional communities. This section combines an examination of legal research manuals, office management manuals, and legal research courses to provide a vivid image of how lawyers were taught to conduct legal research and what strategies they were equipped with. It uses legal research manuals not only as evidence for the types of resources available to lawyers, but as evidence for changes over time in the approach to legal research and its instruction.

Law school instruction in using law books began early in the 20th century.[157] Sales representatives of the major publishers of the time (West, the Lawyers Co-op, the American Law Book Company) were sometimes allowed to deliver a lecture on the use of law books. The lectures were based on manuals prepared by legal publishing companies of the same period. West Publishing Company began publishing the series *Brief Making and the Use of Law Books* in 1906.[158] In 1931, the series was renamed *How to Find the Law*.[159] The Lawyers Co-operative

[156] Angela N. H. Creager, Mathias Grote, and Elaine Leong, "Learning by the Book: Manuals and Handbooks in the History of Science," *BJHS Themes* 5 (2020): 1.
[157] Marjorie Dick Rombauer, "First-Year Legal Research and Writing: Then and Now," *Journal of Legal Education* 25, no. 5 (1972-1973): 539; Federick C. Hicks, *Materials and Manuals of Legal Research* (Rochester: The Lawyers Co-operative Publishing Company, 1923), 14.
[158] Kent C. Olson, "Birth of a Nutshell: Morris Cohen in the 1960s," *Law Library Journal* 104, no. 1 (Winter 2012): 61.
[159] Fred Eldean, *How to Find the Law: A Legal Reference Handbook* (St. Paul: West Publishing Company, 1931).

Publishing Company started in 1923, with the first edition of *Law Books and their Use*.[160] When law schools began to offer regular courses on legal research, their courses were modeled after early manuals and focused on the types of law books and how to use them.[161]

Early research manuals were short guides on using library materials. One such manual, published in 1909, was *Law Books and How to Use Them* by John C. Townes, the Dean of the University of Texas Law Department.[162] At 168 pages, this pocket-sized volume was a practical guide to written and unwritten law. The latter distinction, to be dropped in later research manuals, preserved the common law distinction between legislation (constitutions, statutes, treaties, and ordinances) and other sources. Unwritten law included reported court decisions, the most important sources of unwritten law, but also tribunal decisions, digests, books of citations, law dictionaries, textbooks, encyclopedias, and law magazines. Townes briefly described each type of resource, sometimes offered advice on use, and provided a short discussion of testing the authority of a case. The last section of the manual was for practice: students had to answer questions on a Supreme Court of Texas case reprinted in the book.

When the Lawyers Co-operative Publishing Company began publishing its series of legal research manuals, *Law Books and Their Uses*, it followed a similar model. Less than 100 pages long and bound in soft cover, *Law Books and Their Uses* declared its aim as "elementary in character and utilitarian in scope."[163] Its purpose was to describe the "various kinds of law books" and to arm students with the required information for using them. Seven chapters were devoted to types of law books: legislative enactments, judicial decisions, annotations, digests, textbooks, citation books, and English law books. A few pages were devoted to practice problems.

The manual had little to offer in terms of method. The discussion of "research methods" was a few pages long and titled "Hints on Using Law Books." It contained a brief description of

[160] *Law Books and Their Use: A Manual for Lawyers and Students with a Chapter on Brief-Making* (Rochester: The Lawyers Co-operative Publishing Company, 1923).
[161] Rombauer, "First-Year Legal Research and Writing," 538-552.
[162] Townes, *Law Books and How to Use Them*.
[163] *Law Books and their Use*, 4.

a three-step process legal research process. The manual recommended first to formulate a question of law, then ascertain whether the question was governed by a statute (and how the statute had been construed), and third, to determine whether at issue was local law or general law. The only substantial advice given was that formulating a legal question was an essential first step. "It is vastly easier to look up such a question than it is to ramble through digests or other search books, in a sort of mental fog of facts, with the vague hope of turning up some case 'on all fours.'"[164] Rather than focusing on the facts, the manual suggested reading a secondary source on the subject: a textbook, encyclopedia, or *Ruling Case Law* (an early digest).

On the use of digests, the manual had a detailed entry.[165] First, to describe the challenge of using digests, the manual detailed the process of preparing a digest. According to this description, the digester (in the male singular) used the decisions of the court as its "raw material."[166] He read and summarized the key points in the court's decision. Then, he turned to classification, which was the most complex part. The manual explained that the divisions of the law were not "neat, rectangular compartments, fitting accurately and mutually exclusive" but more like "circles" that had a center but overlapped with other circles.[167] The digester was thus bound to make a determination about classification that was not always easily discernable or exclusive. The manual admonished the reader to avoid trusting the categories in digests and to not rely on digests alone to find "all the authority."[168]

The two following editions of the manual, from 1924 and 1925, had even less guidance on legal research methods but added an extensive section on brief writing.[169] The notes on how digests were made and directions for using them were moved to a separate chapter discussing digests. Despite the fact that the third edition had swelled to almost five times the size of the first

[164] *Law Books and their Use*, 300.
[165] *Law Books and their Use*, 52-54.
[166] *Law Books and their Use*, 52-54.
[167] *Law Books and their Use*, 53.
[168] *Law Books and their Use*, 53.
[169] *Law Books and Their Use: A Manual for Lawyers and Students with a Chapter on Brief-Making*, 2nd ed, (Rochester: The Lawyers Co-operative Publishing Company, 1924); *Law Books and their Use: A Manual for Lawyer and Students with a Chapter on Brief-Making*, 3rd ed. (Rochester: The Lawyers Co-operative Publishing Company: 1925).

one, it maintained the same basic structure introduced in the first volume. It was organized by types of law books with little additional content.

By the fourth edition of *Law Books and Their Uses*, published in 1927, a taxonomy of research methods emerged.[170] The three-step process from the first edition remained unchanged. In this new edition, the manual warned readers that the "importance of careful search grows."[171] It outlined three research methods: the text method, the digest method, and the annotated reports system method. Each method directed readers to a type of law book, the first to textbooks and encyclopedias, the second to digests, and the third to annotated reports. Most importantly, the manual now provided "Rules of Search" with procedures on how to reduce a statement of facts to the "lowest terms," how to relate a case to a body of law, and how to trace analogies between topics. The section on brief writing was also expanded.

The editors of the fourth edition explained the addition of the three research methods by alluding to the changes in law reporting and legal practice. Only a few years ago, they wrote, a discussion of how to find the law was "of little importance."[172] Lawyers kept track of local decisions "as they came down from the local supreme court" and of other decisions through textbooks. With more cases reported, lawyers traded this "simple method" for a more systematic approach to finding the law.[173]

Like other law books, the manual was reprinted in a new edition every few years. The fifth edition of *Law Books and Their Uses*, now over seven times longer than the first edition, was published in 1930.[174] The chapter on search methods remained the same. The chapter in the sixth edition was similar, with a few sections internally rearranged (the section on distilling the

[170] *Law Books and their Use: A Manual for Lawyer and Students with a Chapter on Brief-Making*, 4th ed. (Rochester: The Lawyers Co-operative Publishing Company, 1927).
[171] *Law Books and their Use*, 4th ed., 178-179.
[172] *Law Books and their Use*, 4th ed., 178.
[173] *Law Books and their Use*, 4th ed., 178.
[174] *Law Books and their Use: A Manual for Lawyer and Students with a Chapter on Brief-Making*, 5th ed. (Rochester: The Lawyers Co-operative Publishing Company, 1930).

facts from a client's statement now appeared first).[175] With every substantial change, the manual provided a more structured approach to legal research.

Law Books and Their Uses was always meant to be a practical and short introduction to law books. It directed interested readers to read the longer and more detailed manual of the time, Hicks's *Materials and Methods of Legal Research*. Hicks's manual, published first in 1923 and considered the classic book on legal research, was often used in law school instruction.[176] Hicks's approach was to separate legal bibliography, i.e., how to use law books, from "brief-making," the analysis and composition of legal arguments. At first, law schools adopted only the former, while neglecting the latter.[177]

Hicks's *Materials and Methods of Legal Research* was different from *Law Books and Their Use* in a few significant ways. First, *Law Books and Their Use* had no named author, while Hicks's volume drew authority from the position and reputation of its author, a legal bibliography professor and law librarian at Columbia University Law School. While the forward to *Law Books and Their Use* described it as "elementary in character and utilitarian in scope," Hicks's manual explained that it was a comprehensive guide spanning over 600 pages which grew out of years of studying and teaching legal research and bibliography to Columbia University law students and over two decades of work as a librarian.[178]

Hicks was the one who discarded the distinction between written and unwritten law (used in Townes's *Law Books and How to Use Them*), replacing it with the more familiar distinction between statute law and case law. He also clarified that he used the word "authority" to refer to "individual binding judicial precedents and to statutes in force," not to any book (not even reports or statute books, he stressed).[179] In other words, the "authority" did not stem from the

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[175] *Law Books and their Use: A Manual for Lawyer and Students with a Chapter on Brief-Making*, 6th ed. (Rochester: The Lawyers Co-operative Publishing Company, 1936).
[176] Hicks, *Materials and Manuals of Legal Research*; Dick Rombauer, "First-Year Legal Research and Writing," 538-552, 539.
[177] Rombauer, "First-Year Legal Research and Writing," 539.
[178] Hicks, *Materials and Manuals of Legal Research*, 7.
[179] Hicks, 8.

book status of a particular rule or judicial decision, but from its binding force, which was to be determined, not assumed.

Hicks, too, justified the publication of his manual by charting out the changes in legal publishing. In times past, explained Hicks, it was a "reasonable proposal" to direct students to "a group of books," which included all that was needed for study and practice. It was "humanly possible" to master these over the course of a lifetime.[180] Likening the legal literature in the 1920s to a sea, Hicks argued that a "chart and compass" were required to navigate its waters. Still, Hicks's book kept the focus on types of law books, was geared primarily toward law librarians who taught legal research courses, and had little to offer in terms of method.

West's series of legal research manuals, *How to Find the Law*, first published in 1931, followed a similar structure to *Law Books and Their Uses.*[181] It organized its manuals based on the type of book, providing insight into "methods of search" in the chapter on legislative enactments or "the lawyer process" under digests. The discussion of digests introduced readers to three different approaches to using digests: the fact index approach, the topic method, and the words and phrases approach.[182] Like in *Law Books and their Uses*, each approach corresponded to a law book (in this case, a West product). The recommended approach was to use West's Descriptive Word Index, which was an index of an index, in the words of the manual.[183] The current index was one large volume (with two supplements) that organized the content of the American Digest System alphabetically.[184] The topic method, recommended as a second option, was more top-down. The lawyer was to follow a topic, a conceptual category of law, to the cases that applied it to facts. The last option was to use the Words and Phrases set, which directed lawyers to cases that defined certain words and phrases. The second and third editions of *How to Find the Law* followed largely the same structure and offered the same methods of search.[185]

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[180] Hicks, 13.
[181] Eldean, *How to Find the Law: A Legal Reference Handbook.*
[182] Eldean, 134.
[183] Eldean, 134.
[184] Eldean, 142.
[185] Fred A. Eldean, *How to Find the Law: A Legal Reference Handbook*, 2nd ed. (St. Paul: West Publishing Company, 1936); Henry J. Brandt, *How to Find the Law* (St. Paul: West Publishing Company, 1940).

A competing series of books from the Lawyers Co-operative Publishing Company, *Legal Research*, attempted to offer a different kind of research manual: one organized around the legal research process, not types of books.[186] "It is the purpose of this pamphlet to explain the various steps the lawyer must take in the preparation of a case," declared its fourth edition, published in 1937.[187] Although the organization was different, commencing with "analyzing [the] client's statement of facts" and moving on to systems of search, the content was not substantially different. Each of the three search methods, the text method, the annotated reports system method, and the digest method, corresponded to a type of law book. The manual even referred interested readers to *Law Books and Their Use* and Hicks's manual (now in its second edition).

Although the key texts in legal research continued to be organized around types of law books, a stronger differentiation between legal bibliography and legal research was evident in law manuals. A manual from 1947 was divided into two parts: one for legal bibliography and one for legal research.[188] Entire chapters were now devoted to procedures and methods, sometimes before discussing the types of law books.[189] Step-by-step descriptions were more frequently outlined. Gradually, legal research was solidified as a topic of instruction and as a systematic process.

Law books or legal research manuals were not the only sources of advice on legal research in the first half of the 20th century. Law office management manuals, bar magazine articles, and loose-leaf publications also offered advice. This advice, like in early legal research manuals, was first given under the heading of "brief-making." In describing law books as the "tools of the profession," one law office management manual urged lawyers to learn the "proper methods of using law books."[190]

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[186] *Legal Research with Special Application to American Jurisprudence, American Law Reports, U.S. Supreme Court Reports, L. Ed. and Rose's Notes*, 4th ed. (1937).
[187] *Legal Research*, 4.
[188] Rebecca Laurens Love Notz, *Legal Bibliography and Legal Research* (Washington, D.C.: National Law Book Company, 1947).
[189] Ervin H. Pollack's *Fundamentals of Legal Research* outlined a basic procedure for legal research in its second chapter. Ervin H. Pollack, *Fundamentals of Legal Research* (Brooklyn: The Foundation Press, 1956).
[190] Dwight C. McCarty, *Law Office Management*, rev. ed. (New York: Prentice-Hall, 1940), 468-469.

At least in the early editions, these guides provided more practical advice than the leading manuals on law books. They offered guidance on the research process and directed lawyers to specific resources. A 1926 manual directed lawyers to first determine the "fundamental principles" that govern the case since "digests and encyclopedias are based upon classifications of the subject matter of the law."[191] The second edition of the same manual, published in 1940, advocated the use of a "descriptive word index" or the "key word system."[192] The author recommended word indexes, which were in vogue, because they supported a more precise and rapid search than topical indexes.

Both editions had detailed step-by-step descriptions of how to begin research on a case, how to take notes, document found case law, assemble a brief (including by a method of "scissors and pins," which although not orthodox, was found effective), index the briefs in a file, and properly use yellow-pads.[193] A "brief notebook," a placeholder for notes and decisions with a personal classification system, was also recommended.[194] The third edition of the manual, published in 1955, no longer referred to the "descriptive word index" but rather recommended "several good books" on the topic of legal research.[195] By then, it was hard to outline a single method for legal research, and there were many publications on legal research.

In law schools, the instruction of legal bibliography and legal research followed the developments in legal research manuals.[196] This meant that the focus was, at first, on legal bibliography. After the Second World War, the focus shifted to include legal writing and "legal method" (a combination of legal reasoning and legal writing).[197] Following a rigorous and experimental program developed at the University of Chicago Law School (and publicized in 1948), law schools began to offer their own variants on the instruction of research, writing, and legal methods courses under the title of "Legal Research and Writing."[198] Well into the 1970s,

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[191] Dwight McCarty, *Law Office Management* (New York: Prentice-Hall, 1926), 240.
[192] McCarty, *Law Office Management*, rev. ed., 469.
[193] McCarty, rev. ed., 473-481.
[194] McCarty, rev. ed., 482-484.
[195] Dwight McCarty, *Law Office Management*, 3rd ed. (New York: Prentice-Hall, 1955), 455.
[196] Rombauer, "First-Year Legal Research and Writing," 539; David Lloyd, "A Student View of the Legal Research and Legal Bibliography Course at Utah and Elsewhere—A Proposed System" J*ournal of Legal Education* 25, no. 5 (1972-1973): 555.
[197] Rombauer, "First-Year Legal Research and Writing," 539-541.
[198] Rombauer, 542.

however, legal research and writing classes were largely remedial and gap-filling. Taught by law librarians because of the early focus on legal bibliography and law books, their introductory nature (with little or no credit) made both students and faculty question their value.

In midcentury, the place of legal research courses in the law school curriculum was largely secure and included instruction in both legal research and legal writing. By then, handbooks and manuals went beyond listing the types of law books. While research manuals varied on the exact process of legal research, common to all was some attempt at offering readers a systematic procedure for "finding the law." Short handbooks outlined three main steps: formulating a legal question or a statement of facts, searching for relevant law, and determining the current status of the law.[199] More detailed manuals called for additional steps, but all insisted on a clear articulation of the facts, focusing on the parties, procedure, and substantive issues, as a first step.[200]

The immensely popular *Effective Legal Research*, written by Miles O. Price and Harry Bitner, both legal librarians, was published in 1962.[201] It was used as the key text in legal research courses into the 1970s.[202] Although the book was still organized around types of law books, it also contained an extensive chapter on research techniques. Price and Bitner outlined a ten-step legal research process that utilized all contemporaneous types of legal research resources.[203] After an initial analysis of facts, they recommended a preliminary review of the subject through treatises, encyclopedias, and restatements, followed by a search of legislation and case law. The latter involved five possible approaches: using key numbers, tables, topic, facts, or words and phrases. Like older manuals, each approach corresponded to a type of law book. After the case law search was completed, Price and Bitner recommended reading the entries in encyclopedias and treatises (again), looking in legal periodicals, loose-leaf services, and miscellaneous materials, then finally "Shepardizing" statutes and cases.

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[199] *How to Find the Law,* 5th ed., 193-194.
[200] Miles O. Price and Harry Bitner, *Effective Legal Research*, student rev. ed. [2nd ed.] (Boston: Little, Brown and Company, 1969), 354; Notz, *Legal Bibliography and Legal Research*, 87; Cohen, *Legal Research in a Nutshell*, 54-55.
[201] Miles O. Price and Harry Bitner, *Effective Legal Research*, 3rd ed. (Boston: Little, Brown and Company, 1969).
[202] Lloyd, "A Student View of the Legal Research and Legal Bibliography Course," 555.
[203] Price and Bitner, *Effective Legal Research*, 3rd ed., 354.

Legal Research in a Nutshell, a manual of legal research authored by Morris L. Cohen and published in 1968, also detailed a few possible methods for legal research. Cohen recommended using the descriptive word index, arguing that looking up cases by facts, not doctrine, was the most efficient for case finding.[204] The descriptive word index, an alphabetical list of words along with citations of cases on point, provided an alternative to the multi-volume digest. Rather than using categories, lawyers could use ordinary words to begin their search.

As this discussion of research manuals makes clear, lawyers were trained to consult several books for their research. No single book could produce a definitive answer to a legal question. Lawyers drew on an array of primary and secondary sources. Secondary materials had what digests and reports lacked – an editorial hand that picked the most instructive cases and explained the basic legal principles. As early as the nineteenth century, a practicing New York attorney described his research process as combining three or four types of law books (and the assistance of a "subordinate").[205] The process began by reading digests or encyclopedias, then following the cases through citators to locate more cases, and finally using a table of overruled cases to determine the cases' authority. His experience matched the prescriptions of early research manuals, which advised lawyers to combine secondary materials with primary ones.

Lawyers were still conducting legal research in this way well into the 2000s. In Hanson's study of lawyers' legal research materials ("From Key Numbers to Keywords"), he found that lawyers used secondary sources to overcome the pitfalls of primary ones. Unsure what classification to use, lawyers would start with a treatise, legal encyclopedia, or Restatement.[206] Once they located the case or cases "on point," they turned to West publications, noted the key numbers assigned to the case, and then followed the numbers to find other, similar cases discussing the same point of law. Lawyers combined different types of law books to overcome the shortcomings of each, resulting in a widely heterogeneous research approach that could not be reduced to a single type of law book.

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[204] Cohen, *Legal Research in a Nutshell*, 54.
[205] Theron G. Strong, *Landmarks of a Lawyer's Lifetime* (New York: Dodd, Mead and Company, 1914), 430-431.
[206] Hanson, "From Key Numbers to Keywords," 569.

Beyond the Books: The Organized Bar and the Organized Lawyer

In addition to law books, lawyers had two other resources to draw on: those made available by the local bar association and their own systems of information management. These resources served as extensions of lawyers' office libraries, extending outwards, to the bar associations and external libraries, and inwards, to their notebooks and files. It was often these resources that were the most relevant to the local practice of most lawyers.

The Bar and Legal Research

American bar associations played a major role in facilitating and supporting legal research. In the nineteenth century, the first bar libraries were established with donations from the private collections of their founding members.[207] Inseparable from bar associations, early bar libraries were exclusive clubs. They were privately funded and catered to elite lawyers.[208] Lawyers served as the initial "librarians," and many of the collections were private donations.[209] These bar libraries served "as an extension of, and in many instances a substitute for, the private office library."[210] Initially, these resources were not available to all lawyers since bar associations in the nineteenth century and early 20th century excluded black, female, and lower-class lawyers. With the expansion of bar association membership, these resources became available to larger groups of attorneys.

Another major way bar associations supported legal research was through their periodicals. In Ohio, *The Ohio Bar* (initially titled *The Weekly Bar Bulletin*), one of the oldest bar periodicals in the country, has been publishing digests of court opinions and news of ongoing cases since its first volume in 1924.[211] John L. W. Hanney, the appointed court reporter of the

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[207] "Bar & Law Library Associations," *American Lawyer* 7, no. 2 (1899): 68; Christine A. Brock, "Law Libraries and Librarians: A Revisionist History; or More Than You Ever Wanted to Know," *Law Library Journal* 67, no. 3 (August 1974): 329.
[208] John Austin Matzko, "The Best Men of the Bar: The Founding of the American Bar Association," *Essays in History* 21 (1977): 10.
[209] Brock, "Law Libraries and Librarians," 331.
[210] Brock, 331.
[211] "A Brief History of the Ohio State Bar Association Report," *Ohio Lawyer* (September/October 2009): 17. "The Bar Association Report," *The Ohio Bar: Ohio State Bar Association Reports* 1, no. 1 (April 4, 1928), 3.

Supreme Court of Ohio, was the association's first executive director, elected in 1920. Four years into his term, Hanney inaugurated *The Weekly Bar Bulletin*, which was dedicated to news of the association and recent and pending court cases.[212] In 1928, now titled *The Ohio Bar*, the publication was expanded to respond to lawyers' requests to include more news of court proceedings and court decisions.[213]

Starting in the 1940s, Ohio's official court reports and the Ohio State Bar Association (OSBA) must have seemed indivisible to the members of the OSBA. Both were published by the Law Abstract Publishing Company. Hanney secured a contract with the Law Abstract Publishing Company in 1942, after the previous publisher threatened with a sharp increase in printing prices. OSBA members who followed Supreme Court news in *The Ohio Bar* now received The Law Abstract's advanced sheets (weekly court case reports) enclosed within the pages of *The Ohio Bar*.[214] The Ohio State Reports (the official court reports) were compiled from these advance sheets into permanent volumes by the Law Abstract Publishing Company twice a year.

In *The Ohio Bar*, the OSBA created and maintained an efficient digest system. "*The Ohio Bar*, which comes to every Association member every week, contains the advance reports of decisions in Ohio and provides the quickest and most complete opinion reporting system in the United States. No other state Bar association performs such a service," boasted OSBA president Bitner Browne in 1970.[215] Three years before, when the Law Abstract Publishing Company's influential owner, Sheldon Lanning, passed away, the OSBA, concerned about possible delays, decided to purchase the company.[216] The OSBA now owned even the printing press that printed the official court reports.

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[212] Julia A. Osborne, *Buckeye Barristers: A History of the Ohio State Bar Association : 125 Years of Service to the Legal Profession* (Donning Company Publishers, 2005), 50, 56.
[213] "The Bar Association Report," 3.
[214] "A Brief History of the OSBA Report", 17. "'Official Reports' are Exclusively Official!", ad, *The Ohio Bar: Ohio State Association Reports* 37, no. 39 (October 12, 1964): 1081. Osborne, *Buckeye Barristers*, 292-293.
[215] Bitner Browne, "Report of the President," *The Ohio Bar: Ohio State Bar Association Reports* 43, no. 29 (May 18, 1970): 625.
[216] "A Brief History," 19. Norton R. Webster, "Annual Report of the President," *The Ohio Bar: Ohio Bar Association Reports* 41, no. 21 (May 20, 1968): 676.

Although the Ohio State Bar Association was unique in its coverage of court opinions, bar associations in many states published court decisions and articles about recent legal developments in the 1950s and 1960s.[217] Bar associations supported legal research in two additional ways. First, they published notes on legal research techniques and maintained staff to support it.[218] Second, they also maintained and organized lawyers' briefs, complementing the collections of county court libraries that contained court records and briefs.

The Ohio State Bar Association's commitment to legal research was evidenced by its designation of a full-time employee to serve as a legislative and research counsel. Fred D. Puckett, the OSBA's research and legislative counsel, detailed the research services that the bar provided to lawyers in a 1962 article in *The Ohio Bar*. The research and legislative counsel assisted lawyers in learning about, locating, and accessing court opinions and lawyers' briefs.[219] He also aided the Associations' committees in preparing and drafting bills.[220] He maintained a subject matter index of court cases, a collection of lawyers' briefs in Ohio Supreme Court cases (which he indexed himself), and a system of tracking case citations.[221] Lawyers' briefs were a particularly rich source of insight because they were the products of local lawyers' past research. The research and legislative counsel also edited "Paragraph digests," a section of *The Ohio Bar* featuring short summaries of recent Ohio Supreme Court cases.[222]

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[217] The *Boston Bar Journal* published summaries of "important and interesting decisions" from the advanced sheets: "Recent Decisions," *Boston Bar Journal* 6, no. 8 (September 1962): 35-36. The Boston Bar Bulletin, the journal's predecessor, published summaries of decisions of the Massachusetts Supreme Judicial Court, prepared by digesting advanced sheets: "Decisions of the Supreme Judicial Court," *Bar Bulletin* 26, no. 2 (February 1955): 47-62. In a publication of the Bar Association of the City of New York, the editors usually grouped a few recent decisions of the New York Court of Appeals and discussed their implications: Joseph H. Flom and Sheldon Oliensis, "Recent Decisions of the New York Court of Appeals," *Record of the Association of the Bar of the City of New York* 9, no. 7 (October 1954): 333-335. The Illinois State Bar Association also published short snippets of court decisions: Stanley L. Lind, "Illinois Supreme Court Opinions," *Illinois Bar Journal* 40 (1951): 68-70.

[218] See for example: J. Howard Manningham, "Hints on Legal Research," *Bar Bulletin* 26, no. 5 (1955): 139-140; Doris R. Fenneberg, "How a Lawyer May Overcome the Disadvantage of an Adverse Decision?" *The Ohio Bar: Ohio State Bar Association Reports* 33, no. 37 (1960): 986-989.

[219] The subject-matter index was a collection of index cards, organized by years, then alphabetically by subject, and chronologically by the date of reporting in the Ohio Bar. Fred D. Puckett, "Research Services of the Ohio State Bar Association," *The Ohio Bar: Ohio State Bar Association Reports* 35, no. 29 (July 16, 1962), 871.

[220] Osborne, *Buckeye Barristers*, 279.

[221] Puckett, "Research Services of the Ohio State Bar Association," 871.

[222] Puckett, 871-874.

Bar associations provided much-needed local legal research support. Through their periodicals, they kept lawyers abreast of recent developments in the state, city, and county courts.[223] Their facilities and libraries provided lawyers with access to law books and local collections of attorney generals' opinions, lawyers' briefs, and local ordinances. This support was crucial for expanding the sometimes meager resources of solo practitioners or small law firms, particularly in urban areas where a majority of the early bar associations operated.

Bespoke Systems of Information Management

Commonplace and manuscript books were among the earliest tools lawyers used for organizing legal knowledge. One of the nineteenth century popular authors on legal study, David Hoffman, recommended students maintain a commonplace notebook with two purposes: to impress knowledge on the mind (achieved by writing, which involved another sense and thus made a more lasting and vivid impression) and to create a repository, a digest that "may be frequently reported to."[224] Hoffman recommended using eight different notebooks to track evolving case law, exceptions to general principles, statute summaries, and other topics. Another popular student textbook of the time by Samual Warren directed young lawyers to carefully read each new volume of reports as it came out, noting in the margins of cases altered by the decision the later treatment, and record the decision in a commonplace book under the appropriate heading.[225]

The advice on reading full volumes of reports as they came out and "noting up" cases quickly became outdated with the onslaught of law reports published in the second half of the nineteenth century. However, the advice on maintaining an organized collection of legal knowledge remained, albeit in a slightly different form. In the 1930s, it took the form of law office management systems. A 1931 Report of the City of New York Bar Association documented a practice of keeping a corpus of law file memos, classified and organized by West's

[223] Of course, the coverage was not uniform. The stratification of the bar was mirrored in the prominent place of certain practices areas while others remained marginal.
[224] David Hoffman, *Course of Legal Study: Respectfully Addressed to the Students of Law in the United States*. (Baltimore: Coale and Maxwell, 1817), 335-361.
[225] Samuel Warren, *A Popular and Practical Introduction to Law Studies* (New York: The Law Press, 1837), 308.

key number system.[226] A formal brief or a memo was a product of much effort. Many of the law offices surveyed reported that their staff filed a copy of prepared briefs and memos in a dedicated file that was internally classified according to the West's key number system.[227] The system was meant to save precious time. Law clerks were "to consult the memorandum of [the] law file before commencing work upon any question of law."[228]

For large firms in the 1960s, organizing past research products and their files was a priority. Two lawyers from Phoenix, Arizona, Orme Lewis and Paul G. Ulrich, described their law firm's management system under the title "Human Retrieval Without Computers."[229] Research was a time-consuming activity that law firms needed to track to avoid wasting valuable time and money. In searching for an appropriate system, Lewis and Ulrich questioned lawyers about their solutions. Most offices, it turned out, faced similar problems and used a homemade index or a commercial index (not specifically designed for case law). The authors designed a new system utilizing edge-notched cards, the West's key number system, and a standard procedure.[230] After preparing a memo, the lawyer was to prepare an "index input memo," a form with the client's details, the matter, the date, a short summary of the questions considered, and the digest topics and key numbers. He then sent the form with the memo to the library. The coding was done by "punching out the appropriate combination of holes along its margin." A sorting needle was used to retrieve the cards. When it was inserted through a particular hole, the "punched" cards were dropped. The order did not matter for retrieving information, only the punched holes. The two lawyers reported that their current system, servicing 37 lawyers, contained about 3,000 cards sorted by year.[231] Edge-notched cards, despite bearing some resemblance to punched cards, were not machine-readable.

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[226] *Law Office Management: Report of the Special Committee on Law Office Management of the Association of the Bar of the City of New York* (New York: Baker, Voorhis & Co., 1931), 69-71.
[227] *Law Office Management,* 70.
[228] *Law Office Management,* 70.
[229] Orme Lewis and Paul G. Ulrich, "Information Retrieval without Computers," *American Bar Association Journal* 54, no. 7 (July 1968): 676-681.
[230] Lewis and Ulrich, 677.
[231] Lewis and Ulrich, 679.

Conclusion

Lawyers in the first half of the 20th century used a variety of tools and techniques for legal research. While digests and citators, particularly West's *American Digest* and *Shepard's Citations*, were important tools of the trade, they were used in tandem with other law books. By midcentury, legal research manuals and courses offered lawyers a systematic approach to legal research. They recommended starting with an assessment of the facts or refining a legal question, combining secondary and primary sources, and always finishing the search by checking for recent developments that may have altered the authority of cases and statutes. Facts, court cases, categories, and general principles combined to create the latticework of legal research.

Since the early days of law reporting, lawyers have relied on their own notes and systems to organize their knowledge. Legal publishers might have revolutionized the legal landscape with their innovations, but lawyers leaned on the individual techniques and methods that they had developed during their law school days or early in their practice. These techniques and methods were systematic, too. As law firms grew bigger, such methods were adapted to fit a group of practitioners who wished to preserve and reuse the valuable products of legal research.

Finally, the organized bar played a key role in facilitating and supporting legal research. Bar organizations provided access to additional resources through bar libraries, which were inseparable from early bar associations. More importantly, they also prepared local resources, tailor-made for their members. Bar associations published recently-digested court cases and articles about recent developments in administrative and tax matters in their periodicals. Sometimes, they maintained repositors of indexed briefs or cases, thus supplementing the collections of the county court libraries.

Traditional narratives of legal research "before the computer" have emphasized legal publishers' role as the harbingers of change that introduced innovations such as comprehensive reporting, the digest, and the legal citator, thus commanding legal research through their products. An examination of manuals and handbooks shows that the process of legal research cannot be reduced to a single product like West's *American Digest* or *Shepard's Citations*.

Lawyers drew on their education, practical needs, and the resources available to them through the bar, libraries, and the courts to hone their legal research skills.

Moreover, this chapter's review of research manuals, instruction materials, and personal information management systems has shown that lawyers constantly oscillated between facts and categories and the specific and general. West's Key Number System was not the first or only attempt to categorize or classify the law. American jurists were preoccupied with classification, taxonomy, and the proper structure of law beginning in the 1870s, if not earlier.[232] Law school education, at least since the introduction of the case method and the first-year curriculum by Christopher Columbus Langdell in 1890, emphasized classification and a hierarchical approach. Even if we accept the claim that the first-year curriculum and "thinking like a lawyer" were at least tied to, if not influenced by, West's system of classification, these landmarks of legal education gained a life of their own.[233] West's classifications go back to a time when most lawyers were not trained in law schools, which makes it hard to assess the exact role that West's categories played once law schools became more popular. This chapter shows that lawyers did not always start with first principles or categories and that their research processes cannot be accurately captured with West's "Key Numbers."

Although manuals and handbooks can be instructive in capturing knowledge and its development, they have limitations in studying lawyers' practices.[234] The next two chapters turn to the issue of practice by focusing first on the work environment and then on the legal research habits and routines of lawyers in the 1950s and 1960s United States.

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[232] James E. Herget, "The Drive for Classification, 1870-1924," in *American Jurisprudence, 1870-1970* (Houston: Rice University Press, 1990), 63-81.
[233] For a review of these claims: Carol M. Bast and Ransford C. Pyle, "Legal Research in the Computer Age: A Paradigm Shift," *Law Library Journal* 93, no. 2 (Spring 2001): 287. Hanson, "From Key Numbers to Keywords," 570; Berring, "Full-Text Data Bases," 33.
[234] Andrew Abbott has shown how academics' research practice differed from librarians' perceptions and instruction in research. Focusing merely on instructional material provides a limited account of use and practice: Andrew Abbott, "Library Research Infrastructure for Humanistic and Social Scientific Scholarship in America in the Twentieth Century" in *Social Knowledge in the Making,* ed. Charles Camic, Neil Gross, and Michèle Lamont (Chicago: University of Chicago Press, 2011), 43-87.

A Mini Glossary of Legal Literature

Abridgment: an early list or summary of cases. The earliest abridgments were of English yearbooks.

Citation Index/Citator: a tool for determining the current status of a legal case. The first American citation index is considered to be Simon Greeleaf's *A Collection of Cases Overruled, Doubted, or Limited in Their Application* (1821). The most prominent example of a citation index was *Shepard's Citation*, a citator that was first published by Frank Shepard in Illinois in 1875 and later spread to cover all state, regional, and U.S. Supreme Court cases.

Descriptive Word Index: an alphabetical list of words along with citations of cases on point. Such an index usually contains fewer volumes than a digest, reducing its content further into an alphabetical list of words describing facts rather than legal topics.

Digest: a digest is an edited collection of reported cases. Digests are organized by subject matter (usually alphabetized) or for particular fields. Unlike reports, digests usually do not contain the full text of court decisions. The prime example of a national digest is West's *American Digest*. *American Digest* was organized by "Key Numbers," which sorted case law into systematic and hierarchical categories.

Report/reporter: reporters contain written records of court opinions. They are composed by court reporters, either private individuals or people who were appointed by the court. Early reports of American court decisions date to the last decade of the 18th century.[235] These reports were formalized in the second half of the 18th century, as states began to assign "official" reporters to report their courts' decisions. Private reporters (or "unofficial reporters") remained in business, the prime example being West Publishing Company's National Reporter System. This was one of the longer-lasting and famous ones, achieving a "quasi-official" status.

[235] Surrency, *A History of American Law Publishing*, 39.

Table of overruled cases: an early form of a citation index. The first tables of cited cases appeared in reporters. Later, they were collected and organized into stand-alone volumes which allowed tracing decisions that were overruled, questioned, or limited. Simon Greenleaf's *A Collection of Cases Overruled, Denied, Doubted or Limited in their Application*, published in 1821, is a prime example. These tables were succeeded by the simpler citation indexes, which were easier and quicker to update.

Words and phrases index: an alphabetized list of words and phrases defined by the courts with citations.

Chapter 2

The Modern Law Office: Legal Work, Technology, and Gender

In March 1962, 59-year-old John Jackson Moke was loading an "autoette," a narrow, three-wheeled electric vehicle, when he sustained a severe back injury.[236] Moke never fully recovered. He suffered from considerable pain, and his mental health deteriorated. Unable to return to his work as a trailer salesman, which required "a great deal of standing, stopping, lifting and moving objects," Moke applied for disability insurance benefits.[237] The examiner who reviewed his case at the Department of Health, Education, and Welfare denied his application, ruling that Moke did not establish actual disability.

The examiner believed Moke could still find employment doing sedentary work, specifically – legal research. The examiner concluded that Moke, who graduated from Ohio Northern University School of Law and worked as a lawyer, could work as a legal research assistant. Although Moke's degree and practice were over 30 years old, the examiner ruled that "since the methods of research have not changed since the claimant graduated from law school and practiced law," there was no reason why Moke could not support himself with legal research.[238] Moke took the matter to court. He filed an action at the Southern Division of the Northern California District Court. At issue were two matters: whether Moke could work in legal research and whether legal research was, indeed, "sedentary work."

Moke was born in Lima, Ohio in 1903 to two Ohio natives.[239] In 1925, after obtaining his Bachelor of Laws degree from Ohio Northern University and taking the Ohio bar exam, he was admitted to the bar.[240] The 1930 United States Census found him working as an attorney ("general practice") and residing, along with his wife, Blanche, in Rocky Rover, a suburb of

[236] Moke v. Celebrezze, 236 F. Supp. 174 (S.D. Cal. 1964).
[237] *Moke*, 236 F. Supp. at 175.
[238] *Moke*, 236 F. Supp. at 175.
[239] John Moke; p. 2A [handwritten], line 48, Enumeration District 40, Lima, Allen County, Ohio; *Fourteenth Census of the United States*, 1920 (National Archives Microfilm Publication T625, roll 1345); Records of the Bureau of the Census, Record Group 29, National Archives, Washington, D.C.
[240] "John Jackson Moke," The Supreme Court of Ohio Attorney Directory (attorney registration number 60674).

Cleveland.[241] They lived in Westlake Hotel, known as the "Pink Palace," a luxury residential hotel with valet service, tennis courts, stables, a mini golf course, and a ballroom.[242] By 1940, the couple, now in their mid-thirties, had moved to California.[243] They had three sons: John, David, and Peter. Sometime in the mid-1930s, John ceased working as an attorney. He never registered as an attorney in California. By 1950, the family had moved to Los Angeles, where John worked as a salesman.[244]

Judge Stanley A. Weigel of the Northern California District Court disagreed with the examiner's decision. First, the judge found the suggestion that Moke could attain employment as a legal research assistant "unrealistic."[245] Rejecting the examiner's argument that research methods have not changed much since the 1930s, Judge Weigel argued that there have been "enormous changes in the substance of the law and in legal procedures within the last thirty years."[246] Moke's legal experience was outdated.

Judge Weigel also disputed the examiner's assumption that legal research was "sedentary work." Unlike the examiner, who imagined legal research as a seated activity, Judge Weigel described it as highly physical. "Much lifting and bending is involved in the simple tasks of removing books from shelves," he wrote.[247] Legal research combined "physical exertion" with demanding cognitive work. A person in pain could complete neither task.[248] Moreover, Moke's mental condition (which Judge Weigel described as "unstable, belligerent and subject to fits of depression") was also unconducive to producing reliable work.[249] The judge found Moke

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[241] John J. Moke; p. 28B [handwritten], line 57, Enumeration District 697, Rocky River, Cuyahoga, Ohio; Fifteenth Census of the United States, 1930 (National Archives Microfilm Publication T626, FHL microfilm: 2341521); Records of the Bureau of the Census, National Archives, Washington, D.C.
[242] "Westlake Hotel," Encyclopedia of Cleveland History, Case Western Reserve University, https://case.edu/ech/articles/w/westlake-hotel.
[243] John J. Moke; p. 6A [handwritten], line 23, Enumeration District: 60-1130, Los Angeles, Los Angeles, California; Sixteenth Census of the United States, 1940 (National Archives Microfilm Publication T627, roll m-t0627-00387); Records of the Bureau of the Census, National Archives, Washington, D.C.
[244] John J. Moke; p. 73 [handwritten], line 6, Enumeration District: 19-355-A, South Los Angeles, Los Angeles, California; *Seventeenth Census of the United States*, 1950 (National Archives Microfilm Publication T628, roll 5516); Records of the Bureau of the Census, Record Group 29, National Archives, Washington, D.C.
[245] *Moke*, 236 F. Supp. at 175.
[246] *Moke*, 236 F. Supp. at 175.
[247] *Moke*, 236 F. Supp. at 176.
[248] *Moke*, 236 F. Supp. at 176.
[249] *Moke*, 236 F. Supp. at 176.

completely unsuited for working in any legal capacity, particularly after witnessing his poor lawyering skills in the case before him. Judge Weigel reversed the decision and ordered Moke's disability payments to be granted immediately.

Two competing images of "legal research" were at issue. The examiner imagined legal research as mostly cognitive work that did not require much training or mental effort. The fact that Moke's legal education and experience were 30 years old (and from a different state) did not make them obsolete in the examiner's eyes. Judge Weigel, more familiar with how legal research was done, rejected this image. If there was any demand for legal research assistants, he wrote, it was for lawyers or students who had "working knowledge" of current legal research methods.[250] And, most importantly, Judge Weigel described legal research as work combining physical and cognitive effort. The physical work of using law books had to be combined with clarity of thought to deal with the intricacies of law. Per Judge Weigel, legal research required relevant and current expertise, experience, and the physical and intellectual capacity to work with objects and ideas.

This chapter zooms in on the people who performed legal research in the 1960s United States. Drawing on law office management manuals, it examines the changes in law offices and their staff to provide a social and material account of their work in this period. It shows that lawyers managed resources and personnel in the law office jointly, part of the "overhead" of legal practice. Although work, gender, and technology were intertwined in the law office, their specific configurations underwent significant changes in the twentieth century. As women and machines populated the law office, legal research was changing, too. Once a part of the diverse portfolio of tasks that legal secretaries and clerks assisted lawyers with, legal research was increasingly understood as requiring separate legal expertise. The rise of legal assistants corresponded to the articulation of legal research as a discrete task that required legal expertise and whose costs could be transferred to clients. The boundary work between secretaries and legal assistants went hand in hand with the boundary work between legal and non-legal tasks or the cognitive and physical tasks of legal practice.

[250] *Moke*, 236 F. Supp. at 175-176.

The Legal Profession at the Turn of the Century

For most of the twentieth century, the majority of law offices were small. Most American lawyers practiced alone until the late 1950s.[251] In 1936, three out of every four lawyers were solo practitioners. Towards the end of the 1940s, their numbers grew smaller: three out of five lawyers. Even as the number of solo practitioners began to shrink, however, the average law firm remained small. In 1947, the average number of lawyers in a law firm was 1.67, with over half of law firms composed of two lawyers.[252] In the 1950s, as the number of solo practitioners sunk to about half of all lawyers, over 93% of law firms had seven lawyers or fewer, with the majority still practicing with just one other attorney. Most partners shared their expenses (rarely profits) with one or two colleagues.[253]

Although the number of large law firms grew rapidly at the turn of the century, they were a small minority. Between 1872 and 1914, the number of firms with more than four lawyers rose from 15 to 445.[254] These were still predominantly small associations. Only in 1892 did any firms have more than five members (there were six such firms).[255] In 1914, the number of large law firms totaled 445, but only six of them had more than nine members.

Law office support staff began small, too. Before the 1870s, lawyers in urban offices were supported by an all-male staff comprised of a few clerks and perhaps a stenographer, copyist, or an office boy.[256] Rural lawyers kept their own ledgers and copied their own documents. Strong and Cadwalader, one of New York City's oldest law firms, included two partners, four attorneys, and four nonlegal members in 1878.[257] Despite the small size, differences in class and prestige were a cornerstone of the law office from the beginning. Clerks,

[251] Richard L. Abel, *American Lawyers* (New York: Oxford University Press, 1989), 179-181, 300.
[252] Abel, *American Lawyers*, 180.
[253] Abel, *American Lawyers*, 9.
[254] Marc Galanter and Thomas Palay, *Tournament of Lawyers: The Transformation of the Big Law Firm* (Chicago: The University of Chicago Press, 1991), 15.
[255] Galanter and Palay, *Tournament of Lawyers*, 15.
[256] James Willard Hurst, *The Growth of American Law: The Law Makers* (Boston: Little, Brown and Company, 1950), 306; Mary Murphree, "Rationalization and Satisfaction in Clerical Work: A case study of Wall Street legal secretaries" (PhD Diss., University of Michigan, 1981), 49.
[257] Hurst, *The Growth of American Law*, 306.

all men, had an internal hierarchy. "Gentlemen apprentices," men who engaged in clerkship temporarily, on their way to becoming lawyers, were of higher status than "clerks by profession," men of lower social status who never became lawyers.[258] The former usually worked without pay, driving the pay of the latter down. A trusted senior clerk was essential since lawyers worked outside the office. They traveled to meet in clients' offices and to conduct business in court, relying on the clerk for office management and on office boys for errands.[259]

The period between 1870 and 1920 was a period of significant change in the law office. Lawyers came to depend on more books, more personnel, and more machines. As the number of reports and additional books such as treatises, digests, and loose-leaf services grew, so did office libraries and lawyers' expenses.[260] Women gradually replaced the male clerical staff.[261] And new technologies like the telephone, typewriter, and filing cabinet proliferated. Lawyers' work shifted too, from primarily advocacy and litigation to mainly counseling and advising.[262] These changes in work and the technologies that supported it enabled lawyers to spend more time in their offices.

Law office personnel became divided along gender lines in addition to class lines. The feminization of clerical work led to lower wages and a gendered relationship between secretaries and their bosses.[263] A "marriage bar" meant that secretaries ceased their work as soon as they married. It allowed employers to treat female clerical workers as temporary workers and justified their low wages.[264] In large offices, differences among secretaries began to emerge, designating some, such as private secretaries, as higher status than others, such as "pool" secretaries. Private secretaries, essential in every law office, small and large, were caught in a work relationship that resembled a matrimonial one.

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[258] Murphree, "Rationalization and Satisfaction in Clerical Work," 50-51.
[259] Murphree, "Rationalization and Satisfaction in Clerical Work," 50.
[260] Hurst, *The Growth of American Law*, 308.
[261] Margery Davies, *Woman's Place Is at the Typewriter: Office Work and Office Workers, 1870-1930* (Philadelphia: Temple University Press, 1982), 159-161; Sharon Hartman Strom, *Beyond the Typewriter: Gender, Class, and the Origins of Modern American Office Work, 1900-1930* (Urbana: University of Illinois Press, 1992), 48-50.
[262] Hurst, *The Growth of American Law*, 302-303.
[263] Hartman Strom, *Beyond the Typewriter*, 190-204; Murphree, "Rationalization and Satisfaction in Clerical Work," 65-69.
[264] Sharon Hartman Strom, "'Light Manufacturing': The Feminization of American Office Work, 1900-1930," *Industrial and Labor Relations Review* 43, no. 1 (1989): 61.

Technology and Gender in the Law Office

By the 1920s, the male legal clerks, stenographers, and copyists who crafted legal documents by hand gave way to female "legal secretaries" who operated modern office "appliances."[265] Female clerical workers operated telephones, dictating machines, typewriters, and vertical filing cabinets, the four main office appliances post-1920. Who used office "machinery" was an often-strict boundary that separated office workers along gender and class lines.

Telephones, ubiquitous in offices in the 1920s, allowed remote communication with clients and enabled lawyers to spend more time in their offices.[266] Telephones were operated by secretaries, who, particularly in small offices, assumed the dual role of telephone operator and receptionist.[267] This dual role assigned the secretary a gatekeeping role.[268] Secretarial extensions allowed secretaries to manage incoming communication and inter-office phones facilitated internal communication.[269] Phones were so essential to the proper functioning of the law office that law office management manuals detailed their proper arrangement so that they would be accessible from any part of the office.[270] The benefits were many: they saved "considerable running about, calling out to employees, and useless going about from one room of the office to another."[271]

The dictating machine was also a welcome development, saving both time and trouble.[272] Law office manuals described the Dictaphone as freeing the lawyer "from dependence upon his stenographer."[273] It separated dictating from typing. The lawyer could dictate into the machine whenever he desired. While it was said to allow the stenographer more time to type, it also meant

[265] Murphree, "Rationalization and Satisfaction in Clerical Work," 59.
[266] Dwight C. McCarty, *Law Office Management* (New York: Prentice-Hall, 1926), 80.
[267] *Law Office Management: Report of the Special Committee on Law Office Management of the Association of the Bar of the City of New York*. (New York: Baker, Voorhis & Co., 1931), 33.
[268] Murphree, "Rationalization and Satisfaction in Clerical Work," 68.
[269] *Report of the Special Committee on Law Office Management*, 33.
[270] McCarty, *Law Office Management*, 86.
[271] McCarty, *Law Office Management*, 86.
[272] McCarty, *Law Office Management*, 72.
[273] McCarty, *Law Office Management*, 72.

that the tape could be transcribed by "any girl who can use a typewriter."[274] The separation of dictating and typing dismantled an important part of the collaborative dialogue between lawyers and personal secretaries. All under the guise of lowering typing costs and freeing clerks' time for more productive work.[275]

No office technology proved more revolutionary for law offices than the typewriter.[276] Typewriters, "an indispensable requisite" in any law firm in the 1920s, became intrinsically tied to the women who operated them: the typists.[277] A 1926 office management manual noted that an office could not be found without at least one working typewriter.[278] The typewriters, recommended the manual, should be of the same make, and ideally each typist should have her own machine since "a typist becomes attached to her own typewriter."[279]

Typists were "attached" to their typewriters in more ways than one. The author of a later office management manual divulged that many of his colleagues considered a stenographer "a more or less mechanical adjunct to a typewriter."[280] Using a typewriter was a departure from the hand-crafting of legal documents. Male clerical personnel, used to bespoke work, rejected the new machinery.[281] Women, who took up such jobs across the nation, were imagined as mechanical operators and not as artisans or craftsmen. The typewriter, particularly when coupled with a dictating machine, meant that the process of copying (converting shorthand to longhand) could be eliminated.

The final essential office technology was the vertical filing cabinet. An efficient new way of organizing information, it first entered offices in the 1890s.[282] The filing cabinet was more

[274] McCarty, *Law Office Management*, 73.
[275] McCarty, *Law Office Management*, 73.
[276] Murphree, "Rationalization and Satisfaction in Clerical Work," 60.
[277] McCarty, *Law Office Management*, 75; Elizabeth Shaughnessy Oelrich, "The Position of the Female Secretary in the United States from 1900 Through 1967: An Historical Study," (PhD Diss., University of North Dakota, 1968), 36.
[278] McCarty, *Law Office Management*, 75.
[279] McCarty, *Law Office Management*, 75.
[280] Francis Price, *Personal and Business Conduct in the Practice of Law: Law Office Management* (Philadelphia: Committee on Continuing Legal Education of the American Law Institute, 1952), 59.
[281] Oelrich, "The Position of the Female Secretary in the United States," 36.
[282] Craig Robertson, *The Filing Cabinet: A Vertical History of Information* (Minneapolis: University of Minnesota Press, 2021), 6.

than an office fixture; it was part of a new system of paperwork. Along with its physical technology for organizing information, the system relied on ideals of scientific management and was embodied in the female clerical workers who were considered the "ideal file clerks."[283] Other machines and technologies typical to offices of the time were the duplicating machine, adding machine, punch machine, addressing machine, envelope openers, sealers, and stampers.[284]

Support Staff in Legal Offices

A 1931 report by the City of New York Bar Association documented a variety of employees in the law office.[285] Office boys, stenographers and typists, an array of clerks and assistants with varying roles, law clerks, and partners worked alongside each other. As even small law firms accumulated more books, machines, and personnel, one of the attorneys' tasks became managing resources. Law office management manuals considered staff and equipment as the "overhead" costs of law practice and frequently discussed them together.[286]

Among the law office staff, clerks were highest in the office hierarchy since they were on their way to becoming lawyers, either seeking admission or recently admitted to the bar.[287] As future associates and partners of law firms, they were managed with an eye for their future value to the firm. Their satisfaction was worthy of lawyers' attention. The 1931 report discussed in detail two models for assigning law clerks to partners: a one-on-one model or a pool model.[288] Although assigning a clerk to each partner had significant advantages in specialization and assessment (of the clerk), it was inefficient because the ebb and flow of work was not uniform

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[283] Robertson, *The Filing Cabinet*, 195-197.
[284] McCarty, *Law Office Management*, 78-9; Elizabeth F. Baker, *Technology and Woman's Work* (New York: Columbia University Press, 1964), 214.
[285] *Report of the Special Committee on Law Office Management.* The report was based on responses gathered through written questionnaires. The report sought both to reflect existing practice and to provide guidance to law firms.
[286] Dwight C. McCarty, *Law Office Management*, 3rd ed. (New York: Prentice-Hall, 1955), 434; Price, *Personal and Business Conduct*, 57.
[287] Robert E. Mongue, "From Apprentice to Paralegal: The Rise of the Paralegal Profession in America," *Issues in Legal Scholarship* 15, no. 1 (2017): 47; *Report of the Special Committee on Law Office*, 10-11.
[288] *Report of the Special Committee on Law Office Management*, 9-10.

and the clerk might feel restricted. The pool method was more efficient. However, efficiency came at the cost of direct supervision, which could result in a conflict of duties or overwork.

The managing clerk received special attention in the 1931 report. The manual observed that the practice of having an "older man, possibly not a lawyer, who is expert in matters of practice" was giving way to a newer practice of assigning a law clerk (on his way to becoming a lawyer) to the position.[289] Although the nonlegal clerk could guarantee continuity, the introduction to general practice that clerkship provided to future lawyers seemed more desirable. Managing clerks walked the line between formal training and know-how gained from experience. Increasingly, however, law firms were eliminating the option of managing the daily practicalities of a law office by non-lawyers.

The 1931 report devoted considerable room to the stenographic department. Each partner was assigned a personal secretary from the "pool" of general secretaries.[290] Once a secretary was promoted to the role of personal secretary, she handled the partner's "legal and personal work" exclusively. Secretaries in the general group preformed "all stenographic work of the office" except for the work given by partners to their secretaries.[291] The size of the staff dictated whether the supervisor, usually a stenographer or a typist herself, would handle stenographic work too. General staff secretaries had little contact with lawyers, while legal secretaries' work was a one-on-one relationship with their lawyer.[292] These secretaries derived their status from the attorney they worked for and the prestige of the law firm that employed them.[293]

In the first decades of the 20th century, the private secretary emerged as a new type of office employee.[294] Office dwellers and the authors of office management manuals sought to differentiate between the private secretary and other clerical workers such as stenographers, typists, and file clerks.[295] Often, the boundary between secretaries and stenographers or typists

[289] *Report of the Special Committee on Law Office Management*, 12.
[290] *Report of the Special Committee on Law Office Management*, 18.
[291] *Report of the Special Committee on Law Office Management*, 19.
[292] *Report of the Special Committee on Law Office Management*, 18.
[293] Murphree, "Rationalization and Satisfaction in Clerical Work"; Davies, *Woman's Place Is at the Typewriter*.
[294] Davies, *Woman's Place Is at the Typewriter*, 130; Murphree, "Rationalization and Satisfaction in Clerical Work," 58.
[295] Davies, *Woman's Place Is at the Typewriter*, 129-130.

was conceptualized in mechanical terms: the work of a typist or stenographer was "purely mechanical," following instructions, while the work of a secretary included "taking initiative" and using her judgment.[296]

The author of a 1952 law office management manual, a Santa Barbara lawyer, wrote that if "the clerical employee's capacity is limited to the taking and transcribing of dictation," she is to be called a stenographer.[297] A private secretary could, on the other, do some legal work. She could check the accuracy of the lawyer's work and complete some legal technical tasks. Even a stenographer, whose work definition was narrower, assisted the lawyer with substantive tasks. While dictating, the lawyer could discuss his ideas with her, producing cooperation between the two "not to be accorded by a machine."[298] The woman office worker, whether a stenographer or a secretary, was constantly defined against the machines which she operated.

The legal private secretary was a "generalist," combining tasks that were previously split between different types of clerical workers.[299] She combined the operation of the new machinery (like the typewriter) with verbal and stenographic skills. Some knowledge of the law was also required of her. Writing tasks were central to the role, and secretaries were expected to take notes in shorthand, transcribe documents, and to draft letters themselves.[300] Drafting legal documents and assisting with research were also common, including recording and editing corporate minute accounts, drafting a standard will using a form book, writing a petition or an answer in a straightforward personal injury case, and checking subsequent citations of a case. Tasks that were once handled by the "the time-honored" office boy were also included: carrying papers to court, transmitting papers and documents, ushering visitors around, and handling interoffice communication.[301] Additional tasks included handling files, billing, and mail; ordering supplies; keeping the library updated; keeping a calendar; and directing callers.

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[296] Davies, *Woman's Place Is at the Typewriter*, 130; Price, *Personal and Business Conduct*, 59.
[297] Price, *Personal and Business Conduct*, 58.
[298] Price, *Personal and Business Conduct*, 62.
[299] Murphree, "Rationalization and Satisfaction in Clerical Work," 58.
[300] Murphree, "Rationalization and Satisfaction in Clerical Work," 68.
[301] Dwight C. McCarty, *Law Office Management*, rev. ed. (New York: Prentice-Hall, 1940), 208.

Some of the tasks that legal secretaries preformed were the core of legal practice: they dealt with the clerk of the court, conducted legal research (particularly tracking cases and citations), and drafted pleadings.[302] They were experts in preparing "boilerplates," using legal form books to generate standard documents such as wills or petitions, and trained entering associates in preparing them. At first, it might have been a matter of "taking initiative," but in the 1950s and 1960s, legal secretaries had a professional organization and a training program that introduced them to legal procedure, drafting, and research. In the 1950s, the newly established National Association of Legal Secretaries began to administer a professional legal secretarial certification program.[303] A 1965 training manual for legal secretaries contained chapters on accounting, payroll and recordkeeping, office management, filing and communication, but also on the American legal system, civil procedure, criminal, administrative and federal procedure, corporations and domestic relations, appellate court procedure, legal research, library management, and legal form preparation.[304] The 1962 Legal Secretary Encyclopedic Dictionary, a complete guide to "the skills and crafts of the professional legal secretary," combined "how to" entries on typing legal documents and using the law library with special sections on practice areas ranging from real estate to tax, torts, employment, litigation, and constitutional law.

The 1960s were a period of rapid change for lawyers and legal secretaries alike. For the first time, solo practitioners were not the majority.[305] By the end of the decade, they comprised only a third of practicing lawyers.[306] Associates in law firms, lawyers privately employed (in legal departments), and government lawyers comprised a quarter of all lawyers in the United States in 1960.[307] In 1948, they comprised 16%. The average number of lawyers in law firms grew, reaching an average of 128 members in the twenty largest American firms in 1968.[308] The late 1950s and 1960s were Big Law's "golden age," a time of stability and prosperity.[309]

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[302] Murphree, "Rationalization and Satisfaction in Clerical Work," 149-151.
[303] Mongue, "From Apprentice to Paralegal," 50.
[304] National Association of Legal Secretaries, *Manual for the Legal Secretarial Profession* (St. Paul: West Publishing Company, 1965); *Legal's Secretary's Encyclopedic Dictionary* (Englewood Cliffs: Prentice-Hall, 1962).
[305] Abel, *American Lawyers*, 300.
[306] Abel, *American Lawyers*, 300.
[307] Abel, *American Lawyers*, 300.
[308] Abel, *American Lawyers*, 311.
[309] Galanter and Palau, *Tournament of Lawyers*, 8-14, 20.

The 1960s marked a period of decline for legal secretaries. Expanding law firms led to the advent of personnel departments and changes in labor distribution and specialization.[310] Larger law firms meant more specialization and bureaucratization among both lawyers and law firm staff. More and more of lawyers' tasks were now assigned to the growing body of law office employees, such as office managers, legal assistants, and librarians. A secretary's professional affiliation was no longer tied to one lawyer, altering her allegiance, prestige, and practice.[311] The job, once a prestigious occupation, was under attack for being the site of subjugation, oppression, and male control.

Among these trends, the emergence of "legal assistants" deserves special attention. It was these employees who were tasked with the type of legal tasks that a secretary was once in charge of. "The use of legal assistants is scarcely a departure from what many lawyers have done for years with a competent secretary," wrote a legal management consultant in 1972.[312] While secretaries' tasks were reallocated across the law firm, it was the legal assistant that took over the portion that was considered "legal."

"Legal assistants" (or "paralegals") arose from the ranks of legal secretaries during the 1960s.[313] Their status as a distinct professional group began with their recognition by the American Bar Association in 1967.[314] Despite gaining more attention and forming a professional association and training program in the 1970s (both of which grew out of the secretarial association), they were still often conflated with secretaries. Like in the case of stenographers and secretaries, the distinctions between secretaries and legal assistants needed constant reinforcement. Legal assistants, lawyers, the organized bar, and management consultants insisted that "legal assistants" should be in charge of "legal tasks" all the while ignoring the decades long tradition of assigning the same tasks to secretaires.

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[310] Robert L. Nelson, *Partners with Power: The Social Transformation of the Large Law Firm* (Berkeley: University of California Press, 1988); Galanter and Palau, *Tournament of Lawyers*.
[311] Murphree, "Rationalization and Satisfaction in Clerical Work," 130-146.
[312] Daniel J. Cantor, "A Practical Look at Legal Assistants," *Practical Lawyer* 18, no. 7 (1972): 46.
[313] Mongue, "From Apprentice to Paralegal," 41-59.
[314] ABA Committee on Professional Ethics, opinion no. 316 (1967, Supp. 1968).

The first generation of legal assistants were older women, often legal secretaries who were promoted internally.[315] The 1975 ABA's lawyer's handbook recommended recruiting legal assistants "from the tanks of experienced legal secretaries."[316] These secretaries, who long supported lawyers and were familiar with legal procedures and practices, were a natural choice for this new support staff. Johnstone and Hopson's classic study of the legal profession from 1967 also suggested hiring secretaries and stenographers to handle routine legal work.[317] A Canadian lawyer attending an American-Canadian conference on Law Office Efficiency held in Toronto in 1972 voiced a similar recommendation.[318]

Lawyers, Paralegals, and the Practice of Legal Mechanics

The arrival of "legal assistants" as a distinct category of workers in the 1960s and 1970s was based on an emerging differentiation among legal tasks, separating "mechanical" tasks from other work. Two trends in particular marked this shift. First, the American Bar Association, for the first time, became concerned with "lawyering" by law office employees. Second, office management literature and practical advice in bar periodicals offered "legal assistants" as a solution to the less pleasant aspects of legal work. Under the guise of greater efficiency, the technical aspects of legal work could be shunted onto others, namely assistants, to make room for grand intellectual work. As we will see in chapter four, much of the same discourse applied to the introduction of the computer into law offices.

When the ABA approved the delegation of legal tasks to legal assistants, it was merely authorizing a widespread practice in law offices.[319] Although the Committee on the Unauthorized Practice of Law and the Committee on Ethics have existed since the 1930s, they did not focus on

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[315] Mongue, "From Apprentice to Paralegal," 54; American Bar Association, "Law Office Memos: The Training and Use of Legal Assistants," *American Bar Association Journal* 60, no. 8 (August 1974): 965-968.
[316] American Bar Association, *The Lawyer's Handbook,* rev. ed. (Ann Arbor: Hutchins Hall, 1975), D1-7.
[317] Additional human resources suggested by Johnstone and Hopson were night law students, married women looking for part-time positions, and retired employees who were "physically fit but bored with idleness." Quintin Johnstone and Dan Hopson, Jr., *Lawyers and Their Work: An Analysis of the Legal Profession in the United States and England* (Indianapolis: Bobbs-Merrill, 1967), 545-6.
[318] Ian W. Outerbridge, "Recruiting in a Metropolitan Area," in *Law Office Efficiency: A Collection of Presentations* (Chicago: American Bar Association and Canadian Bar Association, 1972), 35-49.
[319] Mongue, "From Apprentice to Paralegal," 51.

delegation in law offices. It was only in the 1960s that the ABA formed a committee focused on the role of non-lawyers in law offices (and its ethical implications).[320] In 1967, the Standing Committee on Ethics and Responsibility approved the delegation of certain tasks to non-lawyers working under the supervision of lawyers. In 1971, this committee was renamed the Special Committee on Legal Assistants.[321]

Although the title "legal assistant" was used more starting in the 1970s, its roots could be traced further back to legal secretaries. The ABA's first study of legal assistants, published in 1974, found that although law offices used different titles for legal secretaries and legal assistants, the workers' tasks were very similar.[322] One of the earliest professional organizations of legal assistants originated in the National Association of Legal Secretaries (NALS).[323] At first a subsection of the NALS, the National Association of Legal Assistants (NALA), splintered into an independent professional association in 1975.[324] Following the successful NALS model, NALA quickly introduced certification programs adapting NALS materials.[325] Before 1970, there were no certification programs for legal assistants. By 1972, there were so many that the ABA directed the Committee on Legal Assistants to develop standards of accreditation.[326]

The recognition of "legal assistants" by the organized bar was also the recognition that legal practice, or at least some part of it, could be delegated. Before the 1970s, secretaries prepared standard legal documents and assisted with legal research, but no one spoke of "delegating" these tasks. The idea that legal tasks could be delegated emerged along with the people they could be delegated to them: legal assistants.

Clerical work was long considered the "largest and most significant of the overhead expenses of the law office."[327] In a work environment where each lawyer had his own secretary,

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[320] Mongue, "From Apprentice to Paralegal," 52.
[321] Mongue, "From Apprentice to Paralegal," 52.
[322] American Bar Association, "The Training and Use of Legal Assistants.".
[323] The National Federation of Paralegal Associations, a national association for paralegals, was formed in 1974. The NFPA was formed to represent paralegal interests before a senate committee considering federal government regulation of paralegals. Mongue, "From Apprentice to Paralegal," 55.
[324] Mongue, "From Apprentice to Paralegal," 52.
[325] Mongue, "From Apprentice to Paralegal," 53.
[326] Mongue, "From Apprentice to Paralegal," 56.
[327] Price, *Personal and Business Conduct in the Practice of Law,* 57.

and a separate "pool" of secretaries was in charge of "word processing," the costs were significant. The designation of "legal assistant," allowed firms to save money by passing the costs to the client. In *Missouri v. Jenkins*, the Supreme Court recognized that separate billing of paralegal fees was standard practice.[328] Unlike secretaries, the costs of legal assistants or paralegals could be easily billed to law firms' clients. The "outsourcing" of legal assistants' costs was only possible if the tasks they completed were delegated from lawyers, i.e., legal tasks. To be no longer considered part of the "overhead," legal assistants had to directly unburden lawyers.

Legal assistants were also offered as a solution to the problems of larger law offices, greater bureaucracy, and increasing demand for legal services. As the 1960s turned into the 1970s, Carl M. Selinger, a law professor, described the realities of legal practice as the "practice of legal mechanics."[329] Most lawyers devoted their days not to grand intellectual work but rather to routine matters, forms, and procedures. Lawyers' training and the selectiveness of the bar did not match their day-in and day-out work, which drove up the costs of legal services and made lawyers disgruntled.[330] Slinger argued for the use of paraprofessionals, "legal technicians," to address this problem. The legal technicians would act as "legal mechanics," leaving more stimulating and fulfilling work for lawyers. The cheaper salaries of these "technicians" could reduce the overall costs of legal services.

"Legal mechanics" and "technicians" were not just metaphors. Legal assistants, like secretaries and typists before them, were sorted into a hierarchy based on their relationships with machines. Typing "pool" or "word processing" secretaries were lower in the office hierarchy than personal secretaries. The separation between cognitive, creative work and manual, mechanical work mapped unto types of law office workers. Lawyers had previously enjoyed more autonomy and control over their time. They were frustrated with paperwork and red tape. The promise that "mechanical" work, the repetitive, tedious parts of legal work, could be delegated to legal "technicians" allowed lawyers to once again imagine their practice as an elite occupation unencumbered by the demands of physical labor.

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[328] Missouri v. Jenkins, 491 US 274.
[329] Carl M. Selinger, "Functional Division of the American Legal Profession: The Legal Paraprofessional," *Journal of Legal Education* 22, no. 1(1969-1970): 23-24.
[330] Selinger, "Functional Division of the American Legal Profession," 24-25.

As "legal technicians" turned into "legal assistants" and then into "paralegals," they increasingly sought to separate themselves from the machines. Using a typewriter became the dividing line between secretaries, who continued to type, and paralegals, who did not. A study conducted in the mid-1980s found that most paralegals were still women, and the profession was still considered feminine.[331] Maybe due to these remaining similarities, law firms begun enforcing boundaries between these two positions.[332] Law firms insisted on different titles and discouraged lateral moves from one group to another.[333] Law office managers and paralegals used typing to draw the line between legal secretaries and paralegals. Paralegals who were interviewed for the study stressed that they did not type and that they were explicitly told that they should not type when hired. Paralegals who typed in emergency situations admitted that the practice was frowned upon. A small minority typed their own work, and an even smaller minority (2%) typed someone else's work.[334]

Mary Murphree, a trained legal secretary, documented the deskilling of legal secretaries through the increased use of paralegals in her study of big law secretaries in the 1970s. Paralegals were assigned tasks that "the traditional secretary performed all in a day's work."[335] Typing was the exception: paralegals were not expected to do it. Secretaries once coordinated the production of legal documents from start to finish, including typing, proofreading, retyping according to the attorney's revisions, coping, and filing.[336] The paralegals took over some of these tasks, but typing remained outside of their "jurisdiction."

Legal research was a frequent task for paralegals in the 1980s, but it was dwarfed by more demanding tasks like drafting, organizing large amounts of documents, and acquiring

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[331] Quintin Johnstone and Martin Wenglinsky, *Paralegals: Progress and Prospects of a Satellite Occupation* (Westport: Greenwood Press, 1985), 21-22.
[332] Johnstone and Wenglinsky, *Paralegals*, 22.
[333] Although legal secretaries were still being hired to work as legal assistants, they were the minority. The majority of legal assistants came from professional training programs for paralegals. Mongue, "From Apprentice to Paralegal," 54-56.
[334] Johnston and Wenglinsky speculated that these minorities could be explained by offices that were still transitioning their paralegals from traditional secretarial positions. Johnstone and Wenglinsky, *Paralegals,* 22.
[335] Murphree, "Rationalization and Satisfaction in Clerical Work," 151-152.
[336] Murphree, "Rationalization and Satisfaction in Clerical Work," 153.

information.[337] In their 1980s study of paralegals, Johnston and Wenglinsky found that lawyers drew distinctions between two types of paralegals: paralegals who were attending law school and those who weren't. The former were given more complex legal research tasks, while the latter were assigned only "elementary levels" legal research tasks such as citation source checking, theorizing, or distilling statutes and regulations.[338] Johnston and Wenglinsky also found that the most frequent task paralegals were assigned was fact-gathering. Although lawyers drew a line between fact-gathering, which was frequently assigned to paralegals, and legal research, which was assigned only on an elementary level, in reality, the two were intertwined.[339] To know which facts were relevant, one had to know something about legal concepts. Once again, the law office was a place for differentiating and defining tasks and types of employees.

In legal research, secretaries, legal assistants, librarians, and clerks served as crucial "epistemic support personnel."[340] Although their supportive role was often considered rudimentary, they provided the crucial services of updating reporters and digests, maintaining files and indexes, and locating and verifying citations. These employees, including typists and stenographers, conversed with lawyers and responded when their bosses thought "out loud." The constant boundary work between knowing and doing, or the substantive and the technical/mechanical was overlayed on types of personnel. To uphold the epistemic and professional position of lawyers (and future lawyers), they constantly had to be separated from those who merely supported legal work and were allocated little expertise or authority of their own. Like in Shapin's classic study of invisible lab technicians, people who were crucial for "knowing" were systematically minimized to uphold the image of the scientist as the sole producer of knowledge.[341]

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[337] The most time-consuming task by far was "acquiring information" from people, documents, records, and books. The second most time-consuming task was organizing documents, and the third was legal drafting. Legal research was the fourth most time-consuming task, with only 7% responding that it was the task they completed most often. There was some variation based on law firm size: paralegals were most occupied with legal research at corporate law departments and government law offices. Large firms required paralegals to do more legal research than small firms and legal aid agencies. Paralegals at medium-sized firms engaged in legal research the least.
Johnston and Wenglinsky, *Paralegals,*17.
[338] Johnston and Wenglinsky, *Paralegals,* 15.
[339] Johnston and Wenglinsky, *Paralegals,* 16.
[340] Shapin, *A Social History of Truth*.
[341] Steven Shapin, "The invisible technician," *American scientist* 77, no. 6 (1989): 554-563.

Conclusion

Legal research in practice could not be fully understood as "sedentary" work. It required the comingling of cognitive, physical, and social tasks. In fact, it was through the separation of the cognitive from the physical and the substantive from the mechanical that legal research was solidified as a distinct task. At first, law office staff supported legal research as part of other tasks required to provide legal services. And since so much of legal research was the handling and updating of law books, the responsibility was shared among the occupants of the law office. In the 1960s, secretaries' diverse portfolio of tasks was rearranged and transferred to office managers, legal assistants, and librarians. Legal research was officially designated within the domain of legal assistants, law clerks, and librarians. As the division of labor in law offices became more defined, legal research and other legal tasks became something that could be "delegated."

The boundary work between the cognitive and the physical, the substantive and the mechanical, the legal and the nonlegal was one of the ways lawyers gained their authority and expertise. Oftentimes, as in the case of legal secretaries and later legal assistants, the divisions were erected on top of gender and class differences. Being female designated an office worker as an operator of office machinery, reinforcing her role as a technician, not as a legal practitioner. Outside of the office, lawyers were distinguished by their profession. Inside the office, they had to overlay schemas that distinguished between types of work and types of workers to maintain their expert position.

Chapter 3

Practices, Habits, and Routines in Legal Research in the 1960s and 1970s

In 1968, Morris L. Cohen, then the director of the Biddle Law Library at the University of Pennsylvania School of Law, was invited to deliver a talk at the joint meeting of the American Bar Association (ABA) Special Committee on Electronic Data Retrieval and the ABA's Standing Committee on Economics of Law Practice.[342] His talk, titled "Research Habits of Lawyers," focused on historical and current practices of legal research. To talk about research habits, argued Cohen, one needed to know something about the "materials and the methodology" of legal research. The "materials" were well known – described in numerous research manuals and bibliographies on legal research. The "methods" were elusive. Cohen reported that he found virtually no literature on "the actual procedures used by lawyers in their search into the law."[343]

The Electronic Data Retrieval (EDR) Committee was established in 1958 as a committee of the Bar Activities Section. In 1961, following the success of the 1960 ABA annual meeting demonstrations (described in Chapter 4), it was elevated to an ABA Special Committee.[344] It began publishing its quarterly newsletter, Modern Uses of Logic in Law (or M.U.L.L.), in 1959. The mandate of the EDR special committee was to investigate and promote the application of information processing and information technology in the field of law, and to disseminate information about such applications to ABA members.[345] Although the name Electronic Data Retrieval persisted, its members insisted that its interests extended "beyond electronics, beyond data, and also beyond retrieval" to include automatic abstracting, communications, symbolic logic, and more.[346] In the 1960s, the committee was the epicenter of bar associations' efforts to develop information retrieval technologies for law.

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[342] Morris L. Cohen, "Research Habits of Lawyers," *Jurimetrics Journal* 9, no. 4 (1969): 183–94.
[343] Cohen, "Research Habits of Lawyers," 183.
[344] "Proceedings of the House of Delegates, February 20 and 21, 1961" *Annual Report of the American Bar Association* 86, 1961: 132; "Report of the Special Committee on Electronic Data Retrieval", *Annual Report of the American Bar Association* 86, 1961: 669-671. The Electronic Data Retrieval Committee of the Bar Activities Section was a combination of the Operations Research Committee of the Taxation Section (later renamed the Subcommittee on Technical Aids under the Legal Research Committee) and the Committee on Economics of Law Practice of the Bar Activities Section.
[345] "Proceedings of the House of Delegates, February 20 and 21, 1961," 132.
[346] "Report of the Special Committee on Electronic Data Retrieval," 670.

Cohen's invited talk was tied to those automation efforts. Attention to lawyers' research practices as something worthy of study coincided with discussions of automating legal practice. It was no surprise that Cohen could not locate any empirical studies of lawyers' research habits. It was not a distinct question anyone, from sociologists to librarians and lawyers, bothered to collect data on. Lawyers and legal librarians, however, agreed that automating legal research would require a better grasp of what legal research consisted of.[347] In the mid 1960s, as discussions about automating lawyers' work started to percolate at local and national bar associations and among librarians and academics, studies of practices were being commissioned for the first time. Two systematic studies of lawyers' habits were carried out in Missouri and Pennsylvania. The latter was conducted by Cohen. A third, national study was conducted in Canada, but it occurred after Cohen's talk. All three studies were responding to the possibility of automating lawyers' work with computers. To automate and mechanize legal research required unpacking and articulating what legal research was.

The lacuna surrounding lawyers' practices was compounded by another problem: methodology. It was not immediately clear how to excavate lawyers' "habits" as opposed to their "training." Where could one go look? Cohen considered a few possible sources. He ruled out legal research manuals and bibliographic literature as a source of insight, saying that "despite their apparently relevant titles, these guides give little attention to the way lawyers actually use the tools which they describe."[348] Findings from two symposia on legal research held in 1929 and 1955 also proved not to be useful. An impressive array of distinguished legal scholars, such as Karl Llewellyn, a prominent legal scholar and legal realist, Felix Frankfurter, a professor at Harvard Law School and later a Supreme Court Justice, and Edson Sunderland, a law professor at the University of Michigan and a renowned expert on legal procedure, deemed the symposia

[347] In a 1962 study of the feasibility and need for automated legal research carried in Yale Law School, the authors explained that before discussing the mechanization of document retrieval systems, "it is convenient to have a simple description of some non-mechanical retrieval systems, with a view toward isolating those processes which offer the best possibilities for being mechanized." Layman E. Allen, Robin B. S. Brooks, and Patricia A. James, *Automatic Retrieval of Legal Literature: Why and How* (New Haven: Walter E. Meyer Research Institute of Law, Yale Law School, 1962), 24; This was also the approach of two Norwegian lawyers and pioneers of legal informatics, John Bing and Trygve Harvold, who distilled a legal decision-making schema as part of their discussion of automation. John Bing and Trygve Harvold, *Legal Decisions and Information Systems* (Oslo: Universitetsforlaget, 1977).
[348] Cohen, "Research Habits of Lawyers," 183.

"stimulating" but overly academic, per Cohen.[349] Cohen found the titles ill-chosen. The materials "shed no light on the nitty gritty of how library research is done."[350]

Next, Cohen considered Martin Mayer's *The Lawyers* as a source of insight. Mayer, a nonfiction writer whose previous books covered Madison Avenue and Wall Street, published the book in 1966.[351] "A big, brilliant, and ambitious book," as it was described by the former New York judge Charles S. Desmond, the book aspired to provide an account of the legal profession: law school training, substantive law (criminal, personal injury, and welfare), the various types of legal practice, legal research, and the courts.[352] The book, a work of nonfiction written for a lay audience, was read in larger numbers than purely academic studies of the legal profession like Hurst's historic *Lawmakers* or Johnstone and Hopson's *Lawyers and Their Work*, which came out the same year as *The Lawyers*.

Cohen complained that although *The Lawyers* included a 33-page chapter on law books and research, it contained "virtually nothing on the research skills."[353] In that chapter, "Who Has Seen the Law? Books, Binders and Bits," Mayer walked the reader through a young lawyer's attempt to "find the law" in a personal injury case. The first step such a lawyer was likely to take, wrote Mayer, was to call another lawyer who knew something about the relevant area of law: a frequent practice that lawyers resorted to "more often than anyone likes to admit."[354] If, as in Mayer's hypothetical, the lawyer decided to go "looking for the law," the first resource was likely to be an annotated volume of state legislation, which would include the text of the relevant statute along with information on its interpretation by the courts. Although in theory this could have served as a helpful resource, it was often out of date and "the indexing is sloppy," commented Mayer.[355] The next step, following the legislation review, was to get a bird's eye view of the issue using a legal encyclopedia or a treatise. Then, Mayer's lawyer would read the cases directly, using the reports. Mayer explained that the official state reports would not do,

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[349] Cohen, "Research Habits of Lawyers," 183.
[350] Cohen, "Research Habits of Lawyers," 183.
[351] Martin Mayer, *The Lawyers* (New York: Harper & Row, Publishers, 1967).
[352] Charles S. Desmond, "The Lawyers," *Cornell Law Review* 53, no. 3 (1967-1968): 547.
[353] Cohen, "Research Habits of Lawyers," 184.
[354] Mayer, *The Lawyers*, 418.
[355] Mayer, *The Lawyers*, 419.

since they required one to know where to look. Mayer's lawyer thus turned to the national reporter system and West's digest, relying on key numbers to navigate the two. A subsequent step Mayer's lawyer must take was to ascertain that the cases he was relying upon were still authoritative – a task a digest could not achieve, but a perusal of *Shepard's Citations* could.[356] Lastly, consulting a practice book could provide insight into what documents would be expected by the court.[357] Mayer's lawyer relied on his office library for the basics (annotated statutes, reports, maybe a digest, probably a Shepard's) and a bar association or courthouse library for the rest.[358]

What were the elusive skills that were missing in Cohen's reading of Mayer's account? Mayer provided a well-crafted narrative. If any steps could have been distilled from his account (as I did in the previous paragraph), they were well known to someone like Morris Cohen, who himself authored a legal research manual. Instead, what Cohen thought could provide insight into the methods, practices, and habits of lawyers was "empirical information."[359] He was looking for a scientific study of research procedures, not anecdotes. Numbers, not narratives. Alas, the only sources available were a study he carried out in 1965 and another by the Missouri Bar in 1966. The first was described by Cohen later as "a bust" and "not terribly enlightening," the second was never published because its results were considered "statistically invalid."[360] A major national study by the Lawyers' Center for Electronic Legal Research, which Cohen helped plan, never materialized.

It was not just that Cohen's ideal study did not exist in 1969. It was that his vision of a scientific study on research habits was already geared towards automation. A study with a sole emphasis on legal research habits was not useful to anyone but to the people trying to automate it. The idea that lawyers' practice could be gleaned through surveys of lawyers entering the

[356] Mayer, *The Lawyers*, 422.
[357] Mayer, *The Lawyers*, 423.
[358] Mayer, *The Lawyers*, 424.
[359] Cohen, "Research Habits of Lawyers," 184.
[360] Morris L. Cohen to Thomas C. Plowden-Wardlaw, March 5, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers, 1945-2008, 35/3/102, University Archives, University of Illinois at Urbana-Champaign, Urbana-Champaign, Illinois (hereinafter: "Morris L. Cohen Papers"); Special Committee on Legal Research, Committee Reports for 1967-1968, *Journal of the Missouri Bar* 24 (1968): 558-559.

library or by interviewing bar members was already steeped in a kind of Taylorist approach that sought to determine tasks which could subsequently be automated.

Although Cohen prioritized empirical studies, above all surveys of lawyers, he also discussed a few additional sources of insight into lawyers' practices. Through estate inventories, for example, he was able to gather data on how lawyers' libraries changed, showing the growth and diversification that took place over three centuries of American law.[361] A historical comparison of the citations in court opinions revealed the expansion of scope in research materials in Supreme Court decisions.[362] Cohen showed that citing scientific authorities, administrative regulations and decisions, congressional documents, and secondary sources such as commentaries, periodicals, and monographs, was a recent development.[363] Cohen was inspired by John Merryman's classic study from 1954 which analyzed citations in California Supreme Court decisions to investigate how judges chose which legal authorities to cite in their opinions.[364] The content of lawyers' libraries provided insight into changes in the resources available to them. The citations, the products of legal research, approximated changes in legal research practices.[365]

All the methods that Cohen considered had their limitations. A study of library inventories covered the content of individual lawyers' libraries but not all the available resources in external libraries. Individual studies were hard to systematize and not relevant to all lawyers. A study of citations was problematic as well. Merryman's study found that the most important resources in judges' choice of legal authorities were lawyers' briefs, the judges' clerks, who were often the ones who drafted the opinions, and the judges' existing knowledge of a particular field.[366] Judges depended on other people's work for their opinions, so it was not enough to detail their research practices as individuals. In addition, Merryman found that secondary sources like encyclopedias and textbooks were rarely mentioned, while primary sources, like California

[361] Cohen, "Research Habits of Lawyers," 185.
[362] Cohen, "Research Habits of Lawyers," 186-7.
[363] According to Cohen, a mention of such materials was rare or non-existent merely 50 years prior, in the 1920s. Morris L. Cohen, "Research Habits of Lawyers," 186-7.
[364] John H. Merryman, "The Authority of Authority: What the California Supreme Court Cited in 1950," *Stanford Law Review* 6, no. 4 (July 1954): 613-673.
[365] Cohen, "Research Habits of Lawyers," 192.
[366] Merryman, "The Authority of Authority," 651.

Supreme Court Decisions, were frequently cited. But that only meant that secondary sources were less cited, not less used, the former having more to do with legal authority than anything else.

This chapter reconstructs legal research practices in 1960s and 1970s North America. Drawing mainly on bar associations' studies of legal research practices, it tells the story of how the specter of automation generated interest in studying existing legal research practices and tools. The chapter uses these studies in two ways: first, it uses their data to provide a snapshot of how American and Canadian lawyers conducted legal research; second, it integrates the surveys into the larger story of automating legal research. The bar associations and librarians that undertook these surveys focused either on habits (what lawyers did), needs (what lawyers wanted), or a combination of both. As the lawyers who sought to study others' research practices grappled with designing the studies and interpreting their results, they faced a profound question: what should be the relationship between existing practices and the soon-to-come legal research systems? It was not at all clear how to study habits (not to mention the illusive "needs"), what conclusions to draw, and most importantly, whether any given computerized system should join the existing research process or replace it.

From the vantage point of automation, the conclusions of the surveys proved hard to decipher. The surveys indicated that lawyers relied on delegation and collaboration. There was no "individual" process because lawyers seldom engaged in legal research projects alone. Instead, they asked their colleagues for advice, consulted their or other lawyers' notes from previous cases, and assigned research work to junior attorneys or legal assistants if they were part of an office. Legal research also varied with seniority, experience, and specialization. It fit into a holistic social and professional setting. Part of the reason that junior attorneys or legal assistants were assigned legal research was because their training tended to be more up to date. Such tasks also introduced them to legal practice and provided an opportunity to assess their performance. How was a newly-designed legal research system supposed to incorporate all of these findings? Perhaps it should be no surprise that the studies did not garner much attention, not even among the bar association members committed to automating legal research.

The chapter proceeds chronologically. It first discusses a study commissioned by the Missouri Bar Association in 1965 to investigate lawyers' legal research practices. Then it elaborates on two studies carried out by Morris L. Cohen that focused on Philadelphia lawyers' library habits. The third section discusses the first attempt to conduct a national study of lawyers' habits in the United States by the Lawyers' Center for Electronic Legal Research, a non-profit created by the New York State Bar Association. Although the study never materialized, the story shows how lawyers thought about existing habits and automation. In Canada, unlike in the United States, a national study of legal research practices was carried out successfully, albeit slightly later. The fourth section details the findings of the Canadian study. Finally, the chapter considers the findings of a few sociological studies of the legal profession conducted in the 1960s and 1970s. Each of these studies was far from comprehensive. Some had small sample sizes, others provided only general findings, and it was unclear if the results from the Canadian study could be applied to the United States. Comparing and integrating their findings, however, offers an empirical foundation for the study of lawyers' legal research practices.

The Missouri Study and the Collective Nature of Legal Research

In 1965, the Legal Research Committee of the Missouri Bar, aided by a $5000 grant from the American Bar Foundation, began studying lawyers' research techniques.[367] "If progress is to be made in data retrieval for legal research, we must learn more about the habits and techniques of lawyers doing research," wrote Wade F. Baker of the Legal Research Committee in *The Journal of the Missouri Bar*.[368] The idea was that legal research "machines" should be modeled after or at least should be adjusted based on the lawyers' existing practices.[369]

The Missouri study was conducted by professional surveyors at the Research Center housed under the Public Opinion Survey Unit of the University of Missouri.[370] Between March

[367] John H. Lashly, "Report of the President, 1966-1967," *Journal of the Missouri Bar* 23, no. 10 (October 1967): 459; Wade F. Baker, "Legal Research by Computers," *Journal of the Missouri Bar* 21, no. 5 (May 1965): 198.
[368] Baker, "Legal Research by Computers," 198; James W. Benjamin, "Computers and Legal Research," *Journal of the Missouri Bar* 26, no. 4 (April 1970): 186-189.
[369] Baker, "Legal Research by Computers," 198.
[370] David C. Leege, *Evaluation of Legal Research Pilot Study: Prepared for Legal Research Study Group, the Missouri Bar* (Columbia: Public Opinion Survey Unit, Research Center, University of Missouri, 1966).

and April 1966, the research team interviewed 100 respondents, half in person and half on the phone. Although the gender of the interviewees was not recorded (female attorneys were a small minority in Missouri at the time, estimated at 3%), the gender of the interviewers was specifically discussed in the final report.[371] Out of the eight interviewers, five were women and three were men.[372] Leege found the female interviewers produced better data. They were more perceptive, produced more comprehensive data, and recorded their results more meticulously. Leege was adamant that men were not better at interviewing or eliciting "more valid information" than women and that research personnel should be recruited "regardless of sex" in future studies.[373] In any case, this meant that, in most cases, the interview was conducted between a female interviewer and a male lawyer.

The study's final report and surviving coded data provide a glimpse into the research practices of Missouri lawyers in 1966.[374] Take, for example, one respondent who graduated from Washington University Law School in 1940. He practiced as a solo practitioner in Saint Louis, Missouri.[375] In 1966, in his 50s, our attorney specialized in negligence and handled a little bit of everything ("general practice"). He shared an office with other solo practitioners and earned between $15,000 and $20,000 annually. At the time of the survey, legal research was a small part of his practice. When he was younger, he spent more time in the law library, both because he did not share his office then (and, therefore, his library) with others and because he was less familiar with "the profession."

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[371] The vast majority of attorneys in Missouri (97%) in the 1960s were men. Mary Durkin and A. Lewis Rhodes, "Shift in Female Participation in the Legal Profession by State: 1960-1970," *Women Lawyers Journal* 65, no. 4 (Fall 1979): 11-24. Missouri Bar surveys did not collect data on the gender of its lawyers during this period, which makes distinguishing male and female attorneys difficult. Given that women were a fraction of the lawyers' population, it is likely that none of the lawyers in the sample were women.

[372] One of the men was a "graduate student with a legal background" recruited especially for the study. The rest were part of the "regular interviewing staff" of the center. Leege, *Evaluation of Legal Research*, 5.

[373] Leege, *Evaluation of Legal Research*, 5-6.

[374] The raw research data was shared with Thomas C. Plowden-Wardlaw of the Lawyer's Center for Electronic Legal Research, who shared it with the members of the Legal Research Committee, including Morris L. Cohen. The story of how it came to be is told in the section on the New York Study. Thomas C. Plowden-Wardlaw to Wade F. Baker, May 22, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.

[375] Respondent no. 1, data sheet, Missouri Pilot Study. Thomas C. Plowden-Wardlaw to Wade F. Baker, May 22, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.

The week before the survey was conducted, he handled 25 matters, three of which required legal research. This was not a "typical" week since our attorney reported falling behind due to an illness. Nevertheless, he recorded 6 hours total of legal research, which he completed over the weekend and evenings. When confronted with a legal problem he could not provide an "immediate answer" to, he responded that he would first consult his private index system, followed by the *Missouri Digest* (an edited and indexed series of court decision reports from the Missouri State and Federal Court) and *American Jurisprudence* (a multi-volume legal encyclopedia published by Lawyers Cooperative Publishing, today part of Thomson Reuters).

Our attorney's library, which he shared with other attorneys, was comprehensive. It contained volumes of annotated federal and Missouri legislation; federal and Missouri reports and digests; a Missouri Citator (*Shepard's*); an extensive collection of practice books on civil procedure, real property, automobile law, trial practice, and personal injuries; and two legal directories (Martindale-Hubbell and the *Missouri Legal Directory*).[376] Annually, he spent an estimated $1,800 on buying new library materials. Although his library resources were superior to other respondents', he relied on a small part of his collection. In any given week, our lawyer consulted Missouri case law (most often) and (to a lesser extent) Missouri statutes, practice books and treatises, and his own files and briefs. As he worked, he recorded important points in handwritten, informal notes. Most of his legal research, an estimated 12 hours a week, was done in his office library. Occasionally, he used the Saint Louis Law Library or the Saint Louis County Law Library. He consulted other attorneys, most likely the ones he shared an office with, frequently.

Largely, our lawyer was representative of the study's mid-1960s Missouri sample. Most Missouri attorneys resided in either St. Louis or Kansas City.[377] The majority had their own practice or partnered with a few others to form a small firm. The most popular fields of practice were property, finance, or personal injury. Office libraries, regardless of size, largely satisfied most lawyers' legal research needs, and they rarely ventured to an outside library.[378] The most

[376] Data sheet, Missouri Pilot Study.
[377] Leege, *Evaluation of Legal Research Pilot Study*, 5.
[378] Leege, *Evaluation of Legal Research Pilot Study*, 16.

popular resources in office libraries were annotated Missouri Statutes, volumes of West's *Southwestern Reporter* and the *Missouri Digest* (both reported Missouri court decisions), *Shepard's Missouri* (a legal citator), local city ordinances, and Missouri jury instructions. Excursions to an outside library, county, city, or university law school library, were usually to consult federal materials, materials from other states, or administrative decisions.

For the Missouri study respondents, legal research meant "finding the applicable law."[379] When asked to detail their process, many responded: "you go to the books," a response which Leege described as the most "repetitious sentence recurring on the questionnaires."[380] Specifically, these lawyers turned to statutes, digests, reporters, and only occasionally to encyclopedias, hornbooks, treatises, or practice books. Law reviews and materials from other fields (social science, psychology) were rarely used or not at all. In other words, lawyers relied heavily on case law and legislation, and much less on secondary, interpretative sources.

The audience for the "findings" of legal research was most often their clients, who were seeking counsel and advice, not the courts. Roughly half of the attorneys surveyed indicated that among the services they provided, "rendering advice or legal opinion" was the one that necessitated legal research most often.[381] Litigation was not what lawyers spent most of their time on, and only about a fifth indicated that "conducting or settling litigation" required the most legal research. When asked why they felt that a specific service required more research, the lawyers resorted to vague answers, which made Leege speculate that they had trouble explaining why one service required more research than another.[382]

Questions that asked lawyers about specific scenarios produced more insight into their practices. Lawyers reported a tendency to turn first to state materials, particularly case law and legislation, on which they relied heavily. This finding held even when the issue they were asked about concerned the United States Constitution. Most Missouri lawyers (66%) took notes on

[379] Leege, *Evaluation of Legal Research Pilot Study*, 6.
[380] Leege, *Evaluation of Legal Research Pilot Study*, 6.
[381] Leege, *Evaluation of Legal Research Pilot Study*, 13.
[382] Leege, *Evaluation of Legal Research Pilot Study*, 13.

their research, but only informally.[383] These notes, as well as their case files and briefs, were a resource that lawyers came back to over and over again. After state decisions and legislation, the resources most often consulted were lawyer-prepared documents (either their own or of others in their firm).[384] A minority (16%) took only mental notes of the results of their research. No lawyer reported preparing a formal memo or brief, but some (16%) indicated that they had their notes typed.

Legal research was not a solitary practice. 65% of the survey respondents indicated that they "received advice or assistance from other attorneys during the past week."[385] They usually turned to another attorney from their firm or an attorney from another state (if the matter was related to the law of that state).[386] This was a daily occurrence.[387] The consultation took place at "conferences," interactions somewhere between a formal meeting and a hallway chat. Lawyers' colleagues were an important source of advice and guidance, on par with books.

Legal research was collaborative in another sense: delegation. When asked to describe their legal research process, many lawyers said they would either assign the case to another attorney or assign the research work to an assistant. 25% of respondents said they would try a few strategies before "going to the books." They would refer to their files and notes, seek the advice of other attorneys, refer the case to another attorney, or assign the research task to a junior associate or assistant.[388] Working arrangements and experience determined both the amount of research and the likelihood of delegation. One young solo practitioner indicated that out of his 40 weekly work hours, he spent 38 hours doing legal research. An established partner in a large firm, on the other hand, indicated that none of his 70 hours a week was devoted to legal research. He had delegated all of that work to assistants.[389]

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[383] Leege, *Evaluation of Legal Research Pilot Study*, 16.
[384] Leege, *Evaluation of Legal Research Pilot Study*, 15.
[385] Leege, *Evaluation of Legal Research Pilot Study*, 19.
[386] Leege, *Evaluation of Legal Research Pilot Study*, 14, 19.
[387] The estimated frequency of consulting with another lawyer was 4-6 times a week. Leege, *Evaluation of Legal Research Pilot Study*, 19.
[388] Leege, *Evaluation of Legal Research Pilot Study*, 8.
[389] Leege, *Evaluation of Legal Research Pilot Study*, 11.

The image that emerged from the Missouri study was one of a local, collaborative, and mostly internal process. Most lawyers relied on their office libraries for legal research, which were largely confined to volumes on Missouri law. For advice, they turned to their files, briefs, and the advice of other attorneys at their law firm. Although the majority of lawyers practiced as solo practitioners or in small firms and did not command extensive collections, they did not feel constrained by the resources at their disposal.[390] Outside libraries served as extensions of law firm libraries and supported legal research into legal problems that involved the law of another state, federal issues, or a specialized field. Among the respondents, solo practitioners just getting started in practice were the heaviest legal researchers and the ones who utilized the local law libraries the most.[391]

From the survey data and findings, we can also learn about the gap between lawyers' perceptions of legal research and their practices. First, lawyers tended to overestimate the time they devoted to legal research. When asked about the "past week," they reported spending 6.77 hours on average on legal research. However, when asked about their "usual work week," they reported a much higher number of hours, averaging 7.25 hours a week. On this question, the researchers obtained data from two sources: the phone survey and the in-person interviews. Lawyers' estimates about their "past week," according to which they devoted 15.5% of their work week to legal research, were identical to the phone study. Their "usual week" was probably an overestimation.

Second, most lawyers' perception of "legal research" was a solitary activity that involved books ("you go to the books"). However, lawyers turned to their peers and subordinates to seek advice or assign research tasks. They consulted notes and files prepared by others in their firm. They considered the advice of an attorney from another state the most immediate resource to provide an answer on a topic that involved that state.[392] Despite the solitary and bookish image of legal research, lawyers worked with others to produce answers to legal questions. Even solo

[390] When asked, for example, what books would they buy had they had more money, most lawyers had trouble coming up with an answer, saying that they were satisfied with their current collections. Leege, *Evaluation of Legal Research Pilot Study*, 19.
[391] Leege, *Evaluation of Legal Research Pilot Study*, 16.
[392] Leege, *Evaluation of Legal Research Pilot Study*, 14.

practitioners often shared their offices with others or negotiated arrangements to use the libraries of large law firms.[393] Leege, too, noted this "curious" gap by pointing out that although books were part of almost every "definition" of legal research lawyers provided, when asked about their process, at least some lawyers indicated other (human) resources first.[394] When discussing the findings about collaboration, he noted that legal research "was not always an isolated interaction between the attorney and his books; it frequently involves the assistance of others."[395]

The amount of legal research varied significantly depending on a lawyer's working arrangements, experience, and specialty. The number of work hours was a weak predictor of the number of hours devoted to legal research.[396] Often, people who worked more hours were able to delegate most of their legal research tasks or practiced in fields that required little research to begin with. Thus, the size of the firm, the duration of practice, and the field of specialty were stronger predictors of the amount of time devoted to legal research. The smaller the firm, the greater the number of hours devoted to legal research. The less an attorney considered himself a specialist, the greater number of hours devoted to research. The longer a person was in practice, the fewer hours he devoted to research.

There were also survey "outliers." These were mostly attorneys working in government, in corporations (in-house attorneys), or elected officials. These attorneys relied more than others on consultations with colleagues and argued they had little to contribute to the study because they "just don't do legal research."[397] It seems that they, too, considered legal research as something you do with books. Leege commented that the nature of their work seemed "so different from that of most practicing attorneys," that a future, larger study might consider excluding them from the sample.

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[393] Leege, *Evaluation of Legal Research Pilot Study*, 16.
[394] Leege, *Evaluation of Legal Research Pilot Study*, 8.
[395] Leege, *Evaluation of Legal Research Pilot Study*, 19.
[396] Leege, *Evaluation of Legal Research Pilot Study*, 11-12.
[397] Leege, *Evaluation of Legal Research Pilot Study*, 20. Interestingly, corporate attorneys' use of outside libraries was on par with that of young solo practitioners. This might be because, like young solo practitioners, they did not have extensive office libraries of their own.

The study did not leave much of an impression on the Missouri Bar or its members. In part, this was because the results were never published. Although the Legal Research Committee found it "extremely valuable," it also dismissed it as a "pilot study" and its results as statistically invalid.[398] The only discussion of its findings in the pages of *The Journal of the Missouri Bar* referred to the inefficient nature of lawyers' legal research practices. Horace Haseltine, one of the Legal Research Committee's members, reported that the "committee was appalled at the monumental duplication of effort."[399] The problem was that "the same problem is researched again and again," leading to a colossal waste of lawyers' time and the loss of knowledge.[400]

In May 1969, when the Legal Research Committee reported the results of its inquiry to the Board of Governors of the Missouri Bar, it recommended three solutions to avoid "waste": establishing a system of "human information retrieval," developing better training programs for paraprofessionals and technicians, and, following an example set by Ohio, establishing a non-profit corporation with a mandate to develop a system of "Legal Research and Retrieval by Computers."[401]

The committee viewed a "human information retrieval" system as the most immediate counter to inefficient legal research practices. The idea, explained in detail by Horace Haseltine, one of the Committee's members in 1970, was to establish a system where "any lawyer for a fee can retrieve the existing knowledge of listed lawyers."[402] The Committee recognized that this exchange of expertise "is done to some limited extent in an informal and somewhat disorganized way" but suggested organizing and formalizing it into a system.[403] The proposed system was modeled after contemporaneous information systems.

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[398] Special Committee on Legal Research, Committee Reports for 1967-1968, *Journal of the Missouri Bar* 24 (1968): 558-559.
[399] Horace Haseltine, "Human Data Receiving: An Internal Reference System for Missouri Lawyers," *Journal of the Missouri Bar* 26, no. 1 (January 1970): 16.
[400] Haseltine, "Human Data Receiving," 16.
[401] "Actions of the Board," *Journal of the Missouri Bar* 25, no. 7 (July 1969): 338-340; James W. Benjamin, "Computers and Legal Research," *Journal of the Missouri Bar* 26, no. 4 (April 1970): 186-189.
[402] Haseltine, "Human Data Receiving," 16.
[403] Haseltine, "Human Data Receiving," 16.

The second recommendation that the board embraced was to develop a training program for paralegals and assistants that would assist in legal research and other work. In Missouri, like in other jurisdictions, legal paraprofessionals were first referred to as legal technicians.[404] The training program and curriculum provided by Saint Louis County Colleges was called the Legal Technology Program, and it held its first classes in 1969. The program was renamed the Legal Assistant Program in 1971, and its duration was double from one to two years. As of 1972, it was offered as an evening program designed for already working people. Like similar programs surveyed in Chapter 2, the program included training in legal ethics, legal research and terminology, legal drafting, the structure of the courts, civil trial procedures, and probate problems.[405] The paraprofessionals were to assist lawyers with legal research, the primary focus of the program, as well as investigations, trial preparation, filing documents in court, managing a law library, and recordkeeping.[406]

Finally, the third committee recommendation concerned the computer. After witnessing a demonstration of computerized legal research by the Ohio Bar Automated Research (OBAR) and Data Corporation at the 1969 Missouri Bar Annual Meeting, the Missouri Bar used OBAR as a model for its new MOBAR (Missouri Automated Research) system in 1970.[407] In 1972, MOBAR signed an agreement with Mead Data Central (MDC) for a legal information service for Missouri lawyers.[408] The Bar Associations in Missouri and New York were the first (after Ohio) to sign contracts with MDC for the provision of information retrieval services. With each contract signed, the database available to Ohio (and then New York and Missouri) lawyers expanded to more state and federal materials.[409]

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[404] David G. Lupo, "Paraprofessionals; Legal Technology; Legal Assistants; What's in a Name," *Journal of the Missouri Bar* 28, no. 3(1972): 120-126.
[405] Lupo, "Paraprofessionals," 121.
[406] Lupo, "Paraprofessionals," 124.
[407] Benjamin, "Computers and Legal Research"; "Committee Reports for 1969-1970," *Journal of the Missouri Bar* 26, no. 12 (December 1970): 643.
[408] "Committee Reports for 1971-1972," *Journal of the Missouri Bar* 28, no. 12 (December 1972): 610; Ohio State Bar Association Automated Research, "Report to the Fellows of the Ohio State Bar Association Foundation, November 10, 1972," M Series, Folder M7A, OBAR papers.
[409] "Report to the Fellows of the Ohio State Bar Association Foundation, November 10, 1972." In 1974, OBAR advertised the newly included libraries of federal materials and state materials of Ohio, New York, and Missouri. Advertisement, July 29, 1974, P Series, Folder P10, OBAR papers.

The Missouri study results were, in a way, predetermined. Despite a great deal of detail and variation, the only finding that garnered the Missouri Bar Association's attention was the inefficiencies of current methods. It was not surprising given that the point of the study was to learn about the habits and techniques of lawyers to design better information systems. The extensive findings on the collaborative nature of legal research were almost entirely disregarded. Although attorneys consulted other attorneys, delegated work to assistants or junior attorneys, relied on the notes of their colleagues, and pooled research resources, the committee preferred the bookish and solitary image of legal research and offered to formalize lawyers' existing collaborative practices, awkwardly pitching them a formal referral system.

The Philadelphia Study: Using Library Resources

In Philadelphia, Morris L. Cohen conducted two surveys. The first, conducted in 1965, concerned lawyers' practice in an external library, the Philadelphia Bar Association Library. The second, conducted in 1968, was a study of law office libraries in Philadelphia. Libraries were central to how Cohen approached legal research, and not just because he was a law librarian. They were the "place" of legal research. Philadelphia was home to the oldest law library in the United States, the Philadelphia Bar Association Library, established in 1802.[410] Like its contemporaries in Boston, New York, and Cleveland, it was established by a group of lawyers who wanted to share the costs of legal materials.[411] Cohen's decision to survey attorneys at the library meant that he was more likely to encounter lawyers who engaged in legal research. It also allowed him to record their responses while their recollections were fresh.

Judging from contemporaneous accounts of legal research, Philadelphia attorneys also equated legal research with books. Lenard L. Wolffe, a young Assistant City Solicitor

[410] The library was first established as The Law Library Company of the City of Philadelphia in 1802. It was then merged with the Associated Members of the Bar and subsequently renamed the Law Association of Philadelphia in 1827 and then renamed again to the Law Library of the Philadelphia Bar Association in 1931. In 1967 it was renamed again, to the Theodore F. Jenkins Memorial Law Library, a name by which it is known today. "History," Jenkins Law Library, https://www.jenkinslaw.org/about/history. As Cohen was writing, the library was still known as the Philadelphia Bar Association Library, which is the name he used.

[411] In Boston, the Social Law Library was established in 1803. In New York City, The New York Law Institute Library was established in 1828. Cleveland Law Library was established in 1869. These libraries, established by practitioners, predated the prestigious law school libraries in the same areas.

specializing in zoning, complained that legal research was in a "bad way."[412] The experience of "awful frustration" resulting from going through volumes in search of a case was familiar to every attorney, he explained.[413] The reason was the books: "The research material is so cumbersome in its presentation as to leave one shaken."[414]

Cohen's first study was a survey of 500 lawyers. He found that lawyers turned to the Philadelphia Bar Association Library only after exhausting the resources in their office libraries. On average, Philly lawyers visited the library once a week, spending a little less than an hour on each visit.[415] Their focus was most often Pennsylvania materials. Few came to research other state materials, and fewer still came for federal materials. They consulted court reports, statutes, encyclopedias, and treatises. Court reports and statutes were used the most frequently. The surveyed lawyers indicated that it was in these sources that an answer to their legal question was most often found.[416] Most lawyers did not consult the library card catalog, but about a third consulted the library staff.[417] "The picture one gets is of a more or less satisfied group of lawyers doing routine research, usually in primary sources," summarized Cohen.[418]

After learning how important law office libraries were to lawyers, Cohen decided to design another study, this time of twenty-five law office libraries.[419] Cohen found that even in small law firms, the scope of law office libraries varied significantly, ranging from a "one-man office with 85 books to a seven-man firm with 2,000 volumes and a three-man office with 3,000 volumes."[420] The twenty-five office libraries he surveyed served 111 attorneys. A third of the sample were solo practitioners who shared a suite of offices and a library, and two-thirds were members of small law firms (three or more members).[421] The average number of volumes in the

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[412] Lenard L. Wolffe, "Storm Warning!," *The Shingle* 23, no. 3 (1960): 63-66.
[413] Wolffe, "Storm Warning!," 65.
[414] Wolffe, 65.
[415] Cohen, "Research Habits of Lawyers," 191.
[416] It is very possible that reports were read as a final step in the research process, after secondary materials were consulted, thus concluding the search.
[417] Among the lawyers who did consult the card catalog (5%), half found it to be not useful. Cohen, "Research Habits of Lawyers," 192.
[418] Cohen, "Research Habits of Lawyers," 192.
[419] Morris L. Cohen, "Historical Development of the American Lawyer's Library," *Law Library Journal* 61, no. 4 (November 1968): 459.
[420] Cohen, "The American Lawyer's Library," 459.
[421] Cohen, 459.

surveyed libraries was 500 to 1000 volumes. These volumes were primarily Pennsylvania materials, containing Pennsylvania official reports and annotated statutes, a state digest (*Vale's*), and a citator (*Shepard's*). Occasionally, the collection contained a Pennsylvania legal encyclopedia and a handful of practice or form books. The larger collections in his sample, ranging from 1,500 to 3,000 volumes, also included federal materials: Supreme Court Reports, a general national encyclopedia (*American Jurisprudence* or *Corpus Juris Secundum*). None of the offices had a complete set of federal or regional reporters. Few had United States Supreme Court reports, and none had state reports from another state. In addition to books, Cohen found loose-leaf publications and a few periodicals in the office libraries. Sixty percent of offices (15) subscribed to a loose-leaf service, usually on tax law.[422] All offices subscribed to three main periodicals: two bar publications (the ABA and Pennsylvania Bar Association journals) and a Philadelphia popular law newspaper (*The Legal Intelligencer*).[423]

Attorneys in small firms supplemented their office law library with the Philadelphia Bar Association Library in City Hall, which was within walking distance from all offices surveyed. Almost all the lawyers (109/111) indicated that the bar association library satisfied their needs and was their primary source of additional materials. Large Philadelphia law firms, with 100 to 200 lawyers, had resources on par with large law firms in New York and Washington.[424] With a law firm library containing 10,000 to 20,000 volumes, the bigger firms had more resources, but that did not necessarily result in better legal research.[425]

Cohen went on to have an impressive career in law librarianship. Before directing the Biddle Law Library, he had graduated from Columbia Law school in 1951 and worked in a series of small firms in Manhattan for seven years.[426] Over the course of that period, he realized he was more interested in the research and "the books" than he was in lawyering.[427] In 1957, he started taking night classes in library and information science at the Pratt Institute.[428] After earning his

[422] Cohen, 459.
[423] Cohen, 459.
[424] Cohen, 459.
[425] Cohen, "The American Lawyer's Library," 460.
[426] Kent C. Olson, "Birth of a Nutshell: Morris Cohen in the 1960s," *Law Library Journal* 104, no. 1 (Winter 2012): 53-68.
[427] Olson, "Birth of a Nutshell," 54.
[428] Olson, "Birth of a Nutshell," 54.

degree from Pratt, he became an assistant librarian at Columbia Law School under Miles Price.[429] His next positions were at the University of Buffalo in 1961, and at the University of Pennsylvania in 1963. He published his legal research manual, *Legal Research in a Nutshell*, in 1968.[430] The manual quickly became the most popular legal research text.[431] Shortly after his talk in front of the ABA's ADR committee, he departed from Philadelphia to assume the directorship of Harvard Law School's library in 1971 followed by Yale Law School's library ten years later.[432]

The New York Study: Between Habits and Wants

Although the Missouri study did not make much of an impression in Missouri, it reverberated through the community of lawyers and librarians interested in the automation of legal research. In New York, it inspired plans of a national study of lawyers' habits. Despite the ambitious plans, the study did not materialize.

In the winter of 1966, the New York State Bar Association created the Lawyers' Center for Electronic Legal Research (LCELR).[433] The LCELR was established as an educational organization. It was tasked with investigating and testing legal research systems, educating the legal profession, and furthering the development of or access to legal research systems and services. Thomas C. Plowden-Wardlaw, a tax attorney educated at Oxford University and Columbia School of Law, headed LCELR.[434] Inspired by the Missouri study, the first committee

[429] Olson, "Birth of a Nutshell," 55. It was the same Miles Price who coauthored *Effective Legal Research* with Harry Bitner
[430] Morris L. Cohen, *Legal Research in a Nutshell* (St. Paul: West Publishing Company, 1968).
[431] Olson, "Birth of a Nutshell," 66.
[432] Olson, "Birth of a Nutshell," 67.
[433] Thomas C. Plowden-Wardlaw, "The Lawyer's Center for Electronic Legal Research," *New York State Bar Journal* 39, no. 6 (December 1967): 493-500; The Regents of the University of the State of New York, Provisional Charter to the Lawyers' Center for Electronic Legal Research, October 28, 1966, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers. At the New York State Bar Association, like at the American Bar Association, the interest in electronic legal research grew out of the activity of the tax section of the bar.
[434] "Plowden-Wardlaw, Thomas Campbell," Deaths, *New York Times*, August 17, 1977, p. 44.

established by the LCELR was dedicated to the "Analysis of Present Methods of Legal Research."[435]

Plowden-Wardlaw envisioned that LCELR would serve as a national center for legal information retrieval. In February 1968, he wrote to James W. Benjamin of the Missouri Bar to ask for the Missouri study's results.[436] He explained that the planned committee would combine studies of lawyers' research habits with the goal of creating a national network for the electronic retrieval of legal information. In a later publication he explained that the rationale behind LCELR was to create "an independent agency which could investigate and report on the potentialities of this new technology."[437]

The mandate of committee #1, as it was referred to in the LCELR reports, was one of the central purposes of LCELR, "to study modern methods of legal research and information retrieval."[438] As Plowden-Wardlaw explained to Cohen, it was "very necessary to know what are the adequacies and inadequacies and the economic aspects of present day traditional legal research before we can expect to do anything in connection with the technology that is becoming available in this field."[439] Committee #1 was tasked with answering questions such as: what sources did lawyers use (cases, textbooks, law reviews) to reach their conclusions? What resources did they rely most heavily on? What factors made a difference in legal research? How much time did lawyers spend on "research" on average? Did they rely on consultations with their colleagues? What sort of library did they have? Did they use outside libraries?[440]

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[435] Thomas C. Plowden-Wardlaw to James W. Benjamin, February 26, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers; Thomas C. Plowden-Wardlaw to Wade F. Baker, May 22, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[436] Plowden-Wardlaw to Benjamin, February 26, 1968.
[437] Thomas C. Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," *Forum* 4, no. 4 (July 1969): 286-291, 287.
[438] Thomas C. Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," 287.
[439] Thomas C. Plowden-Wardlaw to Morris L. Cohen, February 26, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[440] Appendix "Committee #1 – Analysis of Present Methods of Legal Research," Thomas C. Plowden-Wardlaw to Wade F. Baker, May 22, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.

There were a few implicit assumptions in LCELR's approach. First, like others, Plowden-Wardlaw had assumed that to create an accurate and reliable computer system, its developers must first understand something about legal research. This line of reasoning went as follows. The computer was not human, so it could not think: "it has to be told what to do to the minutest detail."[441] The developer or person writing the code must "know what 'legal research' means" because the computer did not.[442] Meaning came from empirical knowledge. Thus, teaching the computer required an investigation of lawyers' research methods, including the benefits and shortcomings of these methods.

At the same time, the empirical data was to serve another purpose: to produce a service that would respond to lawyers' "wants."[443] Current practices were inseparable from lawyers' desires. Armed with the results, the LCELR would be able to "apply computer techniques to those wants," to develop an information retrieval service that would respond to lawyers' needs.[444] But, what was the relation between habits and needs? And how was the study to separate the two? Since Plowden-Wardlaw had assumed that lawyers were dissatisfied with their current practices, the proposed study focused on wants, not only habits.

Plowden-Wardlaw positioned LCCELR as a national center for the automation of legal research. He recruited prominent figures in the field of electronic legal research to serve on the committee. He contacted Stephen E. Furth, a pioneer in the then-emerging field of information retrieval who worked in IBM ("not a lawyer" wrote Plowden-Wardlaw); Roy L. Freed, then Counsel to the Computer Control Division of Honeywell, Inc., later regarded as the "grandfather of computer law"; Michael Cudahy, the president of Callaghan & Co., a legal publishing firm; William B. Eldridge, the ABA's Project Director for Legal Research Methods and Materials; Mary Ellen Caldwell, a law professor at Ohio State University, an expert on jurisprudence and computers, and the editor of M.U.L.L.; David R. Bryant, a Chicago attorney, legal librarian, and a rare law book dealer; Paul S. Hoffman, a New York attorney specializing in computer law who later served as the secretary of the ABA Section of Science and Technology and edited the

[441] Appendix "Committee #1 – Analysis of Present Methods of Legal Research."
[442] Appendix "Committee #1 – Analysis of Present Methods of Legal Research."
[443] Appendix "Committee #1 – Analysis of Present Methods of Legal Research."
[444] Appendix "Committee #1 – Analysis of Present Methods of Legal Research."

Bulletin of Law, Science, and Technology ("both a lawyer and knowledgeable with computers" wrote Plowden-Wardlaw), and Morris L. Cohen.[445]

When, in February 1968, Plowden-Wardlaw wrote to Cohen inquiring about his experience and inviting him to join the committee, Cohen responded with a mixture of humility and concern.[446] He wished to join the committee, he wrote, since the study of legal research practices was "of considerable interest" to him.[447] "I am somewhat embarrassed, however, by the underserved assumption that I have some expertise in this field," he wrote.[448] He proceeded to describe the study he ran at the Philadelphia Bar Association Library. His main finding, Cohen reported, was that most lawyers visited the library to use basic primary sources or finding tools, which was not "not terribly enlightening."[449] He concluded his description by saying that "the whole thing was a disappointment."[450] If Plowden-Wardlaw still wanted him, he added, he would be glad to participate.

Cohen had concerns about Plowden-Wardlaw's proposal, too. He agreed that the new tools of information storage and retrieval should be developed only after an "intensive investigation of what sources lawyers actually use in research and the methods of their use."[451] But, he added, such an endeavor would require time, manpower, and money. Conducting the study on a national level would be a "truly formidable undertaking." For a serious study, wrote Cohen, they would need to employ questionnaires and field observations in a variety of settings: lawyers' offices, legal libraries, and courts.

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[445] "In Memoriam: Stephen E. Furth, 1909-1991," *Journal of the American Society for Information Science* 42, no. 10 (1991): 702; Steve Mass, "At 97, he's still enriching the lives of countless others," *Boston Globe*, June 26, 2014, GW.1; "Roy Freed," BigThink, https://bigthink.com/people/royfreed/; William B. Eldridge and Sally F. Dennis, "The Computer as a Tool for Legal Research," *Law and Contemporary Problems* 28, no. 1 (1963): 78-99; David R. Bryant, "Antiquarian Law Books: A Labor of Love," *Experience* 11, no. 3 (2001): 33-35; Paul S. Hoffman, "Computer Contracts - A Lawyer's Primer," *New York State Bar Journal* 51, no. 6 (1979): 470; Mary Ellen Caldwell; Layman E. Allen, "Open Letter to Our Readers," *M.U.L.L. Modern Uses of Logic in Law* 3, no. 1 (1962): 1-2. Plowden-Wardlaw to Baker, July 2, 1968.
[446] Morris L. Cohen to Thomas C. Plowden-Wardlaw, March 5, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[447] Cohen to Plowden-Wardlaw, March 5, 1968.
[448] Cohen to Plowden-Wardlaw, March 5, 1968.
[449] Cohen to Plowden-Wardlaw, March 5, 1968.
[450] Cohen to Plowden-Wardlaw, March 5, 1968.
[451] Cohen to Plowden-Wardlaw, March 5, 1968.

Plowden-Wardlaw wrote back that he shared Cohen's view that such an investigation would "require time, manpower and a great deal of money."[452] Appropriate funding, he added, could be secured after an organizational meeting of the committee.

In the meantime, James W. Benjamin of the Missouri Bar Association wrote to William Eldridge at the American Bar Foundation to ask his permission to share with Plowden-Wardlaw the raw findings of the Missouri study.[453] Eldridge authorized the release of the findings and agreed to serve on Plowden-Wardlaw's committee.[454] In May 1968, Plowden-Wardlaw sent the committee members the results of the Missouri study.[455]

With the summer of 1968 approaching and the American Bar Association annual meeting on the horizon, many of the study's details were still up in the air.[456] Plowden-Wardlaw was counting on the American Bar Foundation to support the study financially, as they had done with the Missouri Bar study. But at that summer's meeting in Philadelphia, it became clear that despite earlier encouraging conversations with ABF's William Eldrige, the ABF was not interested in funding the survey.[457] "They feel, I think, that this is perhaps not a very practical approach to electronic research of legal information," Plowden-Wardlaw reported to Wade Baker of the Missouri Bar Association. The activities of the committee were put on hold.

Accordingly, the LCELR's annual report, compiled at the end of October 1968, mentioned the existence of the committee on Analysis of Present Methods of Legal Research, but contained no update on its activity.[458] The focus had shifted to testing and surveying existing

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[452] Thomas C. Plowden-Wardlaw to Morris L. Cohen, March 8, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[453] James W. Benjamin to William Eldridge, February 28, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[454] Thomas C. Plowden-Wardlaw to William Eldridge, April 23, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[455] Thomas C. Plowden-Wardlaw to Committee on Analysis of Present Methods of Legal Research, May 28, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[456] Thomas C. Plowden-Wardlaw to Wade F. Baker, July 2, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[457] Thomas C. Plowden-Wardlaw to Wade F. Baker, October 3, 1968, Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.
[458] Lawyers' Center for Electronic Legal Research, Second Annual Report, October 31, 1968. Box 28, Folder "Lawyers' Center for Electronic Legal Research," Morris L. Cohen Papers.

legal research systems, which occupied the bulk of the report. "Nothing came out of that venture and the investigation has not been made," said Cohen in 1973.[459]

The Canadian Study: Overcoming the Adversity of Legal Research

In 1971, the Canadian Federal Department of Justice and the Canadian Bar Association embarked on a joint study of lawyers' "information needs."[460] The study deserves our attention if only for its comprehensive sample. Through a survey of 1,100 Canadian attorneys (about 8% of private practice attorneys in Canada at the time) and 200 in-depth interviews, the study sought to capture lawyers' views of their information needs.[461] The study, as its title Compulex (a combination of the words "computer" and "lex") readily revealed, was aimed at uncovering how developments in information technology could assist lawyers.[462] Here there was no talk of "habits," but only of "needs."

The report described legal research as something that "many lawyers dislike," adding that practicing lawyers were under constant pressure to keep their legal research to a minimum.[463] The report explained this disdain for legal research by describing it as "a difficult mental task requiring discipline and concentration" from the viewpoint of lawyers.[464] Available methods of research were viewed by lawyers as time-consuming, cumbersome, and inefficient. But the report also made clear that practicing attorneys did not shy away from legal research because of the difficulty alone. In the words of a Canadian lawyer who commented on the report's findings, legal research was a "less rewarding exercise."[465] Legal research did not generate the same fees as other, more lucrative tasks, and was thus rather low on the list of priorities of practicing

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[459] Morris L. Cohen, "Computerizing Legal Research," *Jurimetrics Journal* 14, no. 1 (Fall 1973): 7.
[460] Hugh W. Silverman, "Operation Compulex: What Are We Doing and Where Are We Going," *Law Library Journal* 66, no. 2 (May 1973): 143-159; "Achievements and the Way Ahead," *International Bar Journal* 2, no. 2 (November 1971): 39-41. The report of the study was reprinted in the Rutgers Journal of Computers and the Law in 1972: "Operation Compulex," *Rutgers Journal of Computers and the Law* 2, no. 2 (1972): 188-241.
[461] "Operation Compulex," 189.
[462] "Operation Compulex," 188.
[463] "Operation Compulex," 192.
[464] "Operation Compulex," 193.
[465] Silverman, "Operation Compulex," 148.

lawyers. If the client was important, the matter involved large sums of money, or the issue was not overly complex, lawyers were more willing to engage in legal research.[466]

The study found additional factors significant in determining the amount of time lawyers devote to legal research: specialization, field of practice, and the size of the firm. Generally, the less specialized and experienced a lawyer was, the more legal research she had to rely on.[467] The more common the practice, the less research was required. Fields like real property, estates, collections, and commercial work, which constituted the primary fields of practice, "seldom require in-depth research."[468] In fact, the report explained that these fields were more profitable exactly because they involved little research and almost no litigation, both considered of poor "financial returns."[469] The study also found that medium and large law firms conducted more research.[470] Larger firms had the necessary resources, in terms of materials and personnel, to engage in legal research. Lawyers in these firms relied on junior lawyers and students ("a cheap source of research labour").[471] Secretaries were also heavily relied on, in all law firms, for a variety of tasks and likened to "executive assistants."[472]

In terms of materials, the report found that lawyers carried out the bulk of their research with their office law book collection.[473] Lawyers invested in library materials an average of 2,000 Canadian dollars per lawyer and an additional 300 Canadian dollars per lawyer to update the collection yearly.

Typically, the report read, "the lawyer is not certain of what he is looking for in the beginning."[474] Thus, the research process usually began by "reading a text book, by referring to an abridgement or an encyclopedia" to direct the lawyer to specific cases. The goal at this point was to "uncover authoritative materials which beat upon the matter at hand." Then, the lawyer

[466] "Operation Compulex," 192-3.
[467] "Operation Compulex," 194.
[468] "Operation Compulex," 193.
[469] "Operation Compulex," 191.
[470] "Operation Compulex," 194.
[471] "Operation Compulex," 194.
[472] "Operation Compulex," 192.
[473] "Operation Compulex," 196.
[474] "Operation Compulex," 197.

needed to make a determination: which cases related to the situation and then "update" them (check that they have not be altered by later decisions). "There is no direct route to finding the law," continued the report. This process of "casting around in the area of law pertaining to his client's situation" led to a gradual narrowing. The lawyer homes in on specific cases or sections of statute law. Although there was "universal agreement among lawyers that this system is cumbersome and time consuming," lawyers also viewed it as somewhat "useful in expanding and keep current the lawyer's general legal knowledge."[475]

Based on this description, the report distilled a research process that was comprised of four stages: assembling the facts of the case and zeroing in on the issues, consulting secondary sources (textbooks, abridgments, encyclopedias) to locate relevant legislation and judicial decisions, examining the authority of relevant decisions, and interpreting the law in relation to the client's problem.[476] On average, "research sessions" lasted less than an hour. Most of the research was conducted during office hours (and in the office), but if the issue was more complex, lawyers would devote time to it during the evenings or weekends.[477]

The "typical description," however, succumbed to the individual view of legal research. According to other sections of the report, lawyers collaborated with others and developed their own research systems and procedures. In large and medium firms, delegation meant passing the issue to another attorney or, more often, to a student in the firm. Lawyers in small firms paid for an opinion from a large firm.[478] The lawyer-developed mechanisms included "indexing cases according to their own personal systems; scanning current cases through weekly or monthly notes; filing memorandums of law and opinions for subsequent reference; 'noting up' of legal text by writing in the citations of recent decisions."[479]

Legal research was not merely a task or a skill. Rather, it was embedded in a social and epistemic system in which social structure, knowledge systems, and technology combined to

[475] "Operation Compulex," 197.
[476] "Operation Compulex," 196.
[477] "Operation Compulex," 196-7.
[478] "Operation Compulex," 197-8.
[479] "Operation Compulex," 198.

produce answers to legal questions and maintained an expert system. Legal research, despite lawyers' complaints of its cumbersome nature, was "seen by many lawyers as almost a necessary manifestation of their professional identity."[480] The report has also made clear that although the current legal research system was not perfect and could be improved, it functioned and served lawyers "reasonably."[481] Over the years, lawyers honed a legal research system that was not merely technical, but also social and professional in nature. Students, who conducted the bulk of legal research, gained practical experience and could be evaluated on their performance (and hired).[482] "Lawyers have evolved a complex network of informal mechanisms in response to the deficiencies of the basic system," summarized the report.[483]

Legal Research in Sociological Studies of the Legal Profession

Sociological studies of the legal profession, although not focused specifically on legal research, partly supported the findings of the bar associations surveys. In terms of lawyers' work, they documented similar variations in time spent on legal research, while finding that legal research, overall, constituted a small part of legal practice. They also found that within large firms, work was segmented and research was assigned to young associates. Lawyers frequently relied on other attorneys for research. Economic factors often determined whether legal research would be done and to what extent. These studies, however, did not document any delegation practice to non-lawyers, nor did they document a disdain for legal research.

Quintin Johnstone and Dan Hopson, through an interview study conducted between 1960 and 1963, provided an overview of the main tasks that attorneys preformed: advice, negotiation, drafting, litigation, investigation of facts, lobbying, brokerage, adjudication, financing, property management, referrals, supervision of others, emotional support, legal research, and analysis.[484] In their analysis of legal research, Johnstone and Hopson found that there was variation in the

[480] "Operation Compulex," 194
[481] "Operation Compulex," 199, 203.
[482] "Operation Compulex," 198.
[483] "Operation Compulex," 198-199.
[484] Quintin Johnstone and Dan Hopson, *Lawyers and Their Work: An Analysis of the Legal Profession in the United States and England* (Indianapolis: Bobbs-Merrill Company, 1967), 77-130.

amount of time devoted to legal research.[485] More experienced lawyers conducted less research, particularly if they were working on a matter they specialized in or on a "small fee matter."[486] Older lawyers did little legal research, practicing "mostly by ear," with little reliance on books. Younger lawyers, appellate specialists, and lawyers taking on considerable work in an area new to them spent more time on research.[487]

Johnstone and Hopson also documented the extent to which economic considerations determined the scope of legal research. Although many small fee matters were "loaded with legal problems," attorneys usually stopped at a cursory examination of the authorities.[488] In matters of great importance and ones that could have generated higher fees, "meticulous and extensive legal research" was possible.[489] Large law firms and corporate legal departments, where the financial stakes frequently justified legal research, were well-equipped with both library resources and personnel. There, young lawyers supervised by more experienced colleagues did the bulk of research work.[490]

Library collections varied, too. Large firms and corporate legal departments commanded good working libraries, sometimes with a full-time legal librarian.[491] In big cities, like New York, collections of over 10,000 volumes were not unusual, with the largest collection of 41,475 volumes held by Davis, Polk, Wardwell, Sunderland and Kiendl (today's Davis Polk).[492] Solo practitioners and small firms, although commanding fewer resources, could rely on bar association, courthouse, or subscription law libraries.[493] Lawyers in small towns faced a problem. With no major law libraries located nearby, outside of traveling to a major city, extensive legal research was almost impossible.[494]

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[485] Johnstone and Hopson, *Lawyers and Their Work*, 103.
[486] Johnstone and Hopson, 103.
[487] Johnstone and Hopson, 103.
[488] Johnstone and Hopson, 103.
[489] Johnstone and Hopson, *Lawyers and Their Work*, 104.
[490] Johnstone and Hopson, 104.
[491] Johnstone and Hopson, 104.
[492] Johnstone and Hopson, 104.
[493] Johnstone and Hopson, 104.
[494] Johnstone and Hopson, 104.

Lawyers relied on print resources, both primary and secondary, and on the advice of their colleagues.[495] Telephoning a colleague, usually one who was more experienced in the field involved, was a frequent form of research reported by the lawyers interviewed for the study.[496] Johnstone and Hopson also documented a practice according to which businesses, specifically title insurance companies, would encourage their title lawyers to provide advice to private practitioners seeking advice as a form of advertisement.[497] Such consultations also frequently occurred within law firms. If the matter required a brief exchange, "off-the-cuff" advice, no fee was charged. If, however, the lawyer consulted invested time and effort, a fee was charged for the service.[498] In matters where corporate law departments recruited private firm experts, they either paid them or had them join as co-counsels.

Lawyers also varied on how they kept their expertise up to date, which depended on the law firms' size. Although "most lawyers regularly make an effort to keep abreast of new developments in the law," some lawyers were more systematic and thorough, others were "haphazard and careless."[499] In large law firms, "keeping up" was usually systematized through circulating a memo prepared by an associate or through an assistant detailing recent developments.

An additional contemporaneous study, the survey of the legal profession, was a national study of lawyers pioneered by the American Bar Association after World War II. It dealt with legal research under the category of "the lawyer and his books."[500] With a national sample of 1% of American lawyers, the survey focused on "reading habits."[501] Among legal periodicals, the most regularly and thoroughly read were the state and city bar journals.[502] The American Bar Association journal along with law reviews were also highly ranked. The study noted with

[495] Johnstone and Hopson, *Lawyers and Their Work*, 103-104.
[496] Johnstone and Hopson, *Lawyers and Their Work*, 104.
[497] Johnstone and Hopson, *Lawyers and Their Work*, 105.
[498] Johnstone and Hopson, 105.
[499] Johnstone and Hopson, *Lawyers and Their Work*, 106.
[500] Albert P. Blaustein and Charles O. Porter, *The American Lawyer: A Summary of the Survey of the Legal Profession* (Chicago: The University of Chicago Press, 1954).
[501] Blaustein and Porter, *The American Lawyer*, 201-204.
[502] Blaustein and Porter, *The American Lawyer*, 202.

concern that lawyers were more consumed with westerns and "whodunit" books than books about law.[503]

The survey also studied libraries, finding that library collections had quadrupled since 1912.[504] Of the 560 law libraries in the nation in 1950 that totaled 5,000 volumes or more, 216 were county law libraries (in county courts) and 137 were law school libraries. Another 110 were state law or state court libraries. 57 of these were located in large law firms and 25 in corporate legal departments. An additional ten libraries were bar association libraries, and five were public law libraries.[505] New York had the largest number of large law libraries, with 65 in New York City alone. Other states with large numbers of large libraries were California (61), the District of Columbia (58), Ohio (52), Pennsylvania (46), Massachusetts (28), Texas (26), and Illinois (20).[506] The two largest legal collections were in the Law Library of Congress and Harvard Law School. The study also found that the growing complexity led to the "creation of a legal specialist – the law librarian."[507]

Additional studies, while distinguishing between main street and wall street lawyers, found that legal research, where done, was usually the domain of the young associate. Erwin Smigel, who studied Wall Street lawyers in the 1960s, confirmed that in large firms, young associates devoted most of their time to research, drafting briefs, and meeting with partners.[508] Law firms took care in acquainting associates with many fields because assigning legal research to them was not only a matter of divvying up work but also of training future partners.[509] Other scholars also noted that research was a task that most often falls on the shoulders of young associates.[510] Law firms particularly benefited from law school training in finding and assessing cases, a factor that also provided an edge to beginning lawyers over more senior ones in conducting legal research.

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[503] Ibid.
[504] Blaustein and Porter, *The American Lawyer*, 205.
[505] Ibid.
[506] Ibid.
[507] Blaustein and Porter, *The American Lawyer*, 207.
[508] Erwin O. Smigel, *The Wall Street Lawyer: Professional Organization Man?* (London: The Free Press of Glencoe, 1964), 143-147.
[509] Smigel, *The Wall Street Lawyer*, 147.
[510] Alan U. Ernst and Morris L. Schwartz, *Lawyers and What They Do* (New York: Franklin Watts, 1964), 89.

Conclusion

We can discern a few common findings from the surveys conducted by bar associations in the United States and Canada during the 1960s and 1970s. The majority of lawyers practiced alone or in a small law firm. Their libraries varied in size and scope but were largely focused on state materials, primarily case law and legislation. Contrary to lawyers' image of legal research, it was not entirely bookish or solitary. Lawyers often turned to colleagues for advice. They also delegated their research work to their subordinates, assistants, students, clerks, or junior lawyers. Although some lawyers, particularly young solo practitioners, commanded fewer resources, their office collection, along with outside law libraries, satisfied most of their research needs.

Lawyers reported that 15-16% of their time during any given week was devoted to legal research. Perhaps surprisingly, most legal research was not for litigation, which took up a small part of these lawyers' practice. Legal research was done to provide advice to clients and only occasionally in preparation of briefs or court materials. The amount of legal research varied significantly based on three main parameters: the size of the firm, the duration of practice, and the field of specialty. Although some studies found that smaller law firms, and in particular solo practitioners, conducted more legal research, others found that large law firms engaged in more research. There are two ways to address this inconsistency: first, different units of analysis. Even if large law firms conducted "more research," this research was, for the most part, not done by senior partners. Also, as we have seen, the definition of what was considered "legal research" often changed depending on the area of practice. The findings were unanimous in reporting that more experienced lawyers and lawyers who considered themselves "specialists" in a particular field conducted less research than beginners. Second, the difference might be attributed to a rural/urban divide in legal practice. Rural areas had only small practices, while urban areas had large, medium, and small practices. For small practices located in rural areas, the challenges of legal research were significant. Thus, the proportion of smaller practices in rural areas in the sample might have determined a finding about small law offices in general.

By the 1970s, two distinct models of computerized legal research services crystalized in North America. One was the "consultation" model, where lawyers relied on a service to assist

with legal research tasks, and the other was the "self-service" model, where lawyers used computerized legal research directly.[511] The former fit with lawyers' existing practices of collaboration and delegation in legal research.[512] The latter went against those practices. While existing practices varied based on lawyers' specialization, experience, and seniority, the "self-service" approach treated all lawyers the same. It went against the prevailing model of dividing legal research at the law office, which allocated legal research tasks to junior associates and legal assistants. According to the "self-service" model, there was no sense in "specializing" in legal research. This was a matter best carried on by oneself. No special expertise, apart from operating the computer, was required.

Habits were the realm of the already existing; needs and wants were the realm of possibility. Existing systems and their imagined potential quickly eclipsed any interest in lawyers' practices. And the fact that some systems, particularly those under the "self-service" model, did not fit with existing research practices, did not make them obsolete. Perhaps the lawyers too believed that they deserved something better than their current research tools and practices.

[511] Ejan MacKaay, "Reflections on the First National Conference on Automated Law Research," *Rutgers Journal of Computers and the Law* 3, no. 2 (1974): 315. MacKaay, a Canadian law professor who ran the Jurimetrics Research Group at University of Montreal, attended the first national conference on Automated Law Research held at Atlanta, Georgia, from March 16 to 18, 1972, where contemporary technologies of legal research were presented.
[512] MacKaay, "Reflections on the First National Conference," 317.

Section II: The Automation of Legal Research

This section picks up where Section I concluded – with early attempts of automating legal research. In particular, this section focuses on the development of the Ohio Bar Automated Research system by a group of Ohio State Bar Association members in the 1960s and 1970s. Chapter 4 is devoted to the conceptual work of automation, while Chapter 5 is devoted to the trust-making work of automation and legal professionals' responses to the new technology. Two shorter sections explore the new system's interface and interactivity (Excursus 1) and the tensions between lawyers and technologists in the development process (Excursus 2).

Chapter 4

The Mechanics of Legal Research

In 1964, lawyers with the Ohio State Bar Association (OSBA) embarked on a project that would culminate in the creation and operation of a local computerized system of legal research. They began by studying existing computer systems, gathering information about lawyers' preferences, and examining various funding schemes. Unsatisfied with any available alternatives, they decided to develop a new system suited for searching Ohio case law. January 30th, 1967 marked the incorporation of the Ohio Automated Bar Research (OBAR) organization, a non-profit established by the OSBA to develop a computerized legal research system. OBAR commissioned the services of Data Corporation, a military contractor turned computer company, to adapt its general-purpose information retrieval system for case law. Together, OBAR and Data Corporation converted printed volumes of Ohio Supreme Court cases into punch cards, refined the system, and created the financial and organizational structure to market their product, the OBAR system. In the summer of 1969, one of the first two remote OBAR terminals was installed in the OBAR offices; the other was installed in the office of Ohio's Attorney General.[513] Telephone lines connected the two terminals in Columbus, Ohio, to the mainframe computer that housed the OBAR database in Dayton, Ohio. It took seven more years to expand the service to 144 subscribers, spread across New York, Ohio, Washington, D.C., Illinois, Missouri, Texas, Massachusetts, Pennsylvania, and California.[514] By then, however, the system was known as Lexis, not OBAR, and the organized bar no longer controlled it.

OBAR was designed to be used by lawyers, its "end-users," directly. Many American online information services of the time catered to "end-users" rather than information specialists.[515] Although librarians had the relevant expertise, these systems, developed between 1963 and 1970, were designed to be used directly by scientists, doctors, and engineers. Information retrieval specialists of the time held diverging views on this issue: while some

[513] "OBAR - A REPORT," *The Ohio Bar*: *Ohio State Bar Association Reports* 42, no. 36 (1969): 1150. Frank J. Troy to Leonard Weibel, November 26, 1969, O Series, Folder O6, OBAR papers.
[514] Mead Data Central Inc., "Number of Subscribers (February, 1976)," O Series, Folder O6, OBAR papers.
[515] Charles P. Bourne and Trudi B. Hahn, *A History of Online Information Services: 1963–1976* (Cambridge: MIT Press, 2003), 397-403.

insisted that "end-users" wished to conduct their own searches and that they had superior knowledge of their research subject, others argued that end users had no desire to search by themselves and had only vague notions of what it was that they were after.[516] The newly created category of "end users" bifurcated the category of "users" into information specialists (who were chiefly librarians) and professionals (doctors, lawyers, scientists, and engineers who normally relied on librarians and research assistants).

The turn to "end-users" in legal information systems was more curious than other contemporaneous systems. For decades, lawyers had relied on various people, such as legal librarians, paralegals, secretaries, and junior lawyers, to assist with legal research. Seasoned lawyers preferred to assign legal research work to younger associates and spend their time on "policy" work.[517] "Delegation is so widespread among lawyers," wrote Canadian law professor Ejan MacKaay, "that one should presume that a lawyer's initial reaction to an automated research system will be to delegate its operation to someone specialized in it."[518]

Although media historians and historians of information technology agree that developers of early online information services veered away from information specialists and librarians, they diverge on the timing and reasons for this shift. Information technology historians Charles Bourne and Trudy Hahn have argued that many of the developers of early online information services targeted "end-users" because they believed that their systems were intuitive and easy to use, even by non-professionals.[519] Bourne and Hahn also document the disagreements around the relevant expertise. While some reasoned that it was better that "end-users" would conduct their searches because they were the experts on their particular case, others argued that librarians held the relevant expertise in information retrieval.

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[516] Frank B. Rogers, "Computerized Bibliographic Retrieval Services," *Library Trends* 23, no. 1 (1974): 73-88; Bourne and Hahn, *A History of Online Information Services*, 217-218, 310-311.
[517] Ejan MacKaay, "Reflections on the First National Conference on Automated Law Research," *Rutgers Journal of Computers and the Law* 3, no. 2 (1974): 310-327; David C. Leege, *Evaluation of Legal Research Pilot Study: Prepared for Legal Research Study Group, the Missouri Bar* (Columbia: Public Opinion Survey Unit, Research Center, University of Missouri, 1966).
[518] MacKaay, "Reflections", 314.
[519] Bourne and Hahn, *A History of Online Information Services*, 409.

Media historian Niels Kerssens has suggested that the orientation towards "end-users" (and away from librarians) was driven by the spread of computer terminals into offices and homes and the creation of a potential market for non-expert search in the 1970s and 1980s.[520] In other words, he argues that creating "end-users" as a distinct category coincided with the technological and economic developments that made computers more widely available. In the case of OBAR, explains information scholar Xiaohua Zhu, the turn to "end-users" was directed by computer experts, who, after developing a general-purpose information retrieval system, went on to search for an appropriate user base and found it in the legal profession.[521] Both Kerssens and Zhu show that there was no end-user base that preceded particular information retrieval technologies.

This chapter argues that the turn to "end-users" and, more specifically, the goal of eliminating any mediation between lawyers and court cases, was meant to divert attention away from the way the computer was revolutionizing legal research. Rather than focusing on the mediation of the computer or on its mechanics, the developers turned their attention to the exclusion of human subjectivity from the legal research process. The chapter shows that OBAR's pioneers started out with a different goal in mind. The focus on eliminating intermediation and casting subjectivity as the problem in legal research were later developments. The chapter shows that developing the new system required conceptual work in additional to technical work. The developers had to articulate a relationship between the computer and the user at the same time as they were articulating the technical specifications of the system. They did so by excluding the support staff who were instrumental to legal research.

The chapter proceeds in five parts. The first three parts describe the initial efforts to develop an automated legal research system, and the last two describe the later stages of development. Between 1964 and 1969, the problem that the system's developers were trying to solve changed. In the first section, I detail how OSBA lawyers began their involvement with automated legal research. I show that the project originated in the legal profession's battle

[520] Niels Kerssens, "When Search Engines Stopped Being Human: Menu Interfaces and the Rise of the Ideological Nature of Algorithmic Search," *Internet Histories* 1, no. 3 (2017): 219-237.
[521] Xiaohua Zhu, "Innovation in Search of a Context: The Early History of Lexis," *Information & Culture* 54, no. 2 (July 2019): 220–42.

against delays in the court system. OSBA lawyers figured that saving the time lawyers spent on mechanical tasks (such as hauling books from library shelves) would translate into faster and cheaper legal services. The second section describes how an existing system inspired OBAR's development. In the third section, I document the first articulation of the envisioned system through a progress report from March 1966. Then, I describe how, as the project gained momentum, the developers' vision shifted to defining and articulating the characteristics of their desired systems. Instead of the seemingly inefficient use of lawyers' time, they increasingly focused on intermediation, the vast array of people facilitating legal research, as the problem to be solved. The fourth and fifth sections provide an account of how this came to be.

Books, Shelves, and the Drudgery of Legal Research

The OBAR system began with a modest goal: to make more time for the creative work by reducing the time spent on "mechanical" research tasks. "At a time when all other activities are competing for a share of the lawyer's limited time, automated data retrieval promises to make more time available to the lawyer," wrote James L. Young in late 1964.[522] Young headed the Ohio Legal Center Institute, a collaboration between the organized bar and Ohio State University that had been established in 1961.[523] For decades, the OSBA occupied a cramped office in the Ohio State House Annex.[524] With the construction of a new building in 1960, the OSBA could finally expand its operations. The newly-established Ohio Legal Center Institute, a non-profit devoted to improving the administration of justice, occupied the top floor. A modest staff of six lawyers and non-lawyers was tasked with facilitating continuing legal education and conducting basic research.[525] At first, the Institute's energy was devoted mainly to continuing legal

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[522] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39 (October 12, 1964): 1059-1082, 1064.

[523] The Legal Center Institute was first founded as the Ohio Legal Center and later renamed. William R. Van Aken, *Buckeye Barristers: A Centennial History of the Ohio State Bar Association* (Ohio State Bar Association, 1980), 273. James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 45, no. 1 (January 3, 1972): 1-24, 6. Erle H. Bridgewater, Jr., "President's Annual Address," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 20 (May 18, 1964): 522.

[524] "We've Moved," *The Ohio Bar: Ohio State Bar Association Reports* 34, no. 42 (October 30, 1961): 1145-1146. Van Aken, *Buckeye Barristers*, 273-7.

[525] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 45, no. 1 (January 3, 1972): 1-24, 6. Van Aken, *Buckeye Barristers*, 273-5. James L. Young, "The Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Report*s 38, no. 7 (February 15, 1965): 179-180.

education, partly because it was a more established tradition and easier to fund.[526] When the Institute picked up legal research in 1964, it was to announce a new focus on the automated retrieval of case law.[527]

The project of automating case law retrieval fit into a broader agenda of promoting the administration of justice and preventing "law's delay" at the research institute. A common complaint over lengthy court proceedings that had existed since at least the 19th century, "law's delay" was once again gaining attention from lawyers and judges in the 1950s.[528] The trustees of the Ohio Legal Center designated law's delay to be the main focus of the Ohio Legal Center Institute. Young, a lawyer who spent much of his career as a public servant, was adamant about battling law's delay, which he viewed as the "law's greatest problem."[529] He viewed law's delay as a problem that should be tackled on an individual and a professional level. He urged lawyers to take action to eliminate any delays. He also wrote that the legal profession should "make a concentrated attempt to isolate and eliminate impediments to the proper and expeditious

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[526] Van Aken, *Buckeye Barristers*, 274. James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 21 (May 23, 1966): 613-615. James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39 (October 12, 1964): 1064.

[527] James L. Young, Ohio Legal Center Institute, *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39 (October 12, 1964): 1064. James F. Preston, "Annual Report of the President," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 21 (May 23, 1966): 608. William G. Harrington, "A Brief History of Computer-Assisted Legal Research," *Law Library Journal* 77, no. 3 (1984-1985): 545. Frank J. Troy, "Ohio Bar Automated Research - A Practical System of Computerized Legal Research," *Jurimetrics Journal* 10, no. 2 (December 1969): 62.

[528] For concerns over the law's delay in the 19th century see: "The Law's Delay," *New York Times*, December 20, 1860; Thomas F. Hargis, "The Law's Delay," *The North American Review* 140, no. 341 (1885): 309–15; For concerns over law's delay in the 1950s and 1960s see: Harry D. Nims, "The Law's Delay: The Bar's Most Urgent Problem," *American Bar Association Journal* 44, no. 1 (1958): 27–92; Henry Ellenbogen, "Justice Delayed," *University of Pittsburgh Law Review* 14, no. 1 (1952): 1–9; Harry Kalven Zeisel, Jr., and Bernard Buckholz, *Delay in the Court* (Boston: Little, Brown and Company, 1959); A. Leo Levin and Edward A. Woolley, *Dispatch and Delay: A Field Study of Judicial Administration in Pennsylvania* (Philadelphia: Institute of Legal Research, University of Pennsylvania, 1961); Chief Justice Earl Warren chose to dedicate his address at the 1958 Annual Meeting of the Assembly of the American Bar Association to the problem of law's delay: see Earl Warren, "The Problem of Delay: A Task for Bench and Bar Alike," *American Bar Association Journal* 44, no. 11 (1958): 1043–69. Shortly after, Chief Justice Warren also published an op-ed in the *New York Times* devoted to the same topic: "Warren Decries Court Backlogs; Chief Justice Says Delays Hurt Profession -- 71,000 Federal Cases Pending," *New York Times*, September 25, 1959. For an account of law's delay as a problem in Ohio: Alan E. Norris, "The Law's Delays in Ohio: Remedy Without New Legislation," *The Ohio Bar: Ohio State Bar Association Reports* 33, no. 29 (July 18, 1960): 789-800.

[529] James L. Young, "The Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 38, issue no. 32 (August 9, 1965): 855-856; James L. Young, "The Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 37 (September 27, 1965): 1033-1035. A year earlier, in 1964, law's delay was designated as the topic for the annual legal essay contest administered by the OSBA, titled "What can the individual attorney do to eliminate the law's delay?": "Law's Delay Is Topic for Third Annual Legal Essay Contest," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 41 (October 26, 1964): 1114.

administration of justice."[530] Automated case retrieval offered a way to do just that. It would "turn non-creative time into productive effort."[531] Time saved meant speedier court proceedings and lower fees for legal services.[532]

Young and Robert (Bob) Perrin, the Institute's assistant director, headed the investigation into automated case retrieval.[533] In addition to examining existing technologies of automated case retrieval, Young and Perrin sent a questionnaire, along with basic information about the system, to OSBA members in 1964.[534] In anticipation of the survey, Young took to his column in *The Ohio Bar* to explain the idea of an automated case retrieval system. It was the first time such a system was introduced to the members of OSBA. Young's column struck a balance between excitement and reassurance. On the one hand, Young emphasized the system's revolutionary potential, writing that automated case retrieval had "the potentiality of being one of the most sweeping and significant developments experienced in the practice of law."[535] On the other hand, Young took great pains to explain that the system was not about to replace any lawyers.

The 1960s were plagued with concerns over automation replacing workers.[536] In the spirit of the time, Young did not simply reassure lawyers that they would not be replaced by automated case retrieval. He demarcated the role of lawyers from the job of the machine: while it was the

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[530] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 45 (November 21, 1966): 1342-1343.
[531] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39 (October 12, 1964): 1064.
[532] James L. Young, "The Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 19 (May 10, 1965): 494-495.
[533] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39 (October 12, 1964): 1064. James F. Preston, "Annual Report of the President," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 21 (May 23, 1966): 608. Harrington, "A Brief History," 545. Troy, "Ohio Bar Automated Research", 62. Van Aken, *Buckeye Barristers*, 274.
[534] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39, (October 12, 1964): 1064. "A Report: More on Electronic Retrieval of Case Law," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 12 (March 21, 1966): 299-300. Roger M. Smith, "State of the Association," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 21 (May 24, 1965): 549. Van Aken, *Buckeye Barristers*, 274.
[535] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39, (October 12, 1964): 1064.
[536] "The Automation Jobless," *Time Magazine,* February 24, 1961. Arthur J. Goldberg, "Can Automation Take Your Job?" *The Tuscaloosa News*, September 3, 1961, p. 21; George E. Sokolsky, "The Usefulness of Man in Production Decreases," *Times Daily*, These Days, January 6, 1962. See also: Jill Lepore, *If Then: How the Simulmatics Corporation Invented the Future* (New York: Liveright, 2021): 129. Miriam A. Cherry, "Job Automation in the 1960s: A Discourse Ahead of Its Time (and for Our Time)," *Comparative Labor Law & Policy Journal* 41, no. 1 (Fall 2019): 206-208.

lawyer's job to provide answers to problems, the machine was merely speeding up the process by locating the source of the answer more rapidly. "The purpose of such a system is merely to shorten the period of time between the emergence of the problem and the lawyer's identification of the applicable case law," explained Young.[537]

Nothing was more emblematic of the inefficiency of current legal research methods than books and shelves. "Hauling books down from library shelves" was to be avoided at all costs and a prime example of the "drudgery" of legal research.[538] The Ohio group repeatedly referred to pulling books from shelves, even within internal correspondence, as the thing to be avoided at all costs.[539] Even after OBAR was renamed Lexis and automated legal research was well established, promotional materials still denounced the physical demands of research.[540] The developers' proclamation that the computer would be to "take the books down from the shelves and open them to the right pages," must have held enormous promise for contemporaneous lawyers.[541]

These descriptions betrayed a concept of legal research comprised of two spheres: the mechanical sphere of research, described as physical, time-consuming, tedious, and manual, and the substantial sphere of research, described as creative, productive, and analytical. The former was an inefficiency to be eliminated, the latter to be protected. This delineation between the mechanical and the cognitively-demanding was reminiscent of other divisions within the law office which parsed legal work into mechanical and substantial tasks. The idea was that legal research, like legal practice, was comprised of a set of purely legal tasks as compared to a set of mechanical tasks that could be executed by non-legal personnel or, in this case, by a computer.

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[537] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, Issue 39 (October 12, 1964), 1064.
[538] William G. Harrington, "What's Happening in Computer-Assisted Legal Research," *American Bar Association Journal* 60, no. 8 (August 1974): 928.
[539] James Preston and Bill Harrington to William Gorog, February 4, 1970, C Series, Folder C4, OBAR papers.
[540] "Legal Research and the Computer," Lexis brochure, undated, P Series, Folder P16, OBAR papers.
[541] "Computerized Law Research System Established in Ohio," *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 5, (January 30, 1967): 136.

The Power of a Successful Demonstration

In November 1964, when responses to the questionnaire started flowing to the Institute, Young and Perrin excitedly reported that the responses exceeded their expectations.[542] Nevertheless, actual progress was slow. Writing in February 1965 and again in May 1965, Young reported that the feasibility of electronic case retrieval was still being assessed.[543] For starters, electronic case retrieval was one project among many that the Institute worked on, with continuing legal education occupying a more central place. The bigger challenge was, however, that automated case retrieval was a concept in the planning stages, not an existing service to be purchased. For the meager Institute staff, it was not immediately clear whom to turn to, what the available options were, and, most importantly, who should pay for the research and development of such a service.

Young argued that the problem was financial: it was a matter of securing the necessary funding. He envisioned electronic case retrieval to be "self-sustaining," generating the money needed for its operation by charging lawyers for the service.[544] Although Young was rightly concerned about the necessary funding, financial issues could not be untangled from substantive issues. How much funding was needed depended on the kind of service that the OSBA planned to offer. Providing access to an existing service was a different matter altogether from developing an original system or adapting an existing system. Operating without a clear blueprint, it was not immediately clear whether such a service should be shouldered by all OSBA members or only interested lawyers.

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[542] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 42 (November 2, 1964), 1177; "A Report: More on Electronic Retrieval of Case Law," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 12 (March 21, 1966): 299-300; James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 41, no. 14 (April 1, 1968): 417. Young's account was supported by Roger M. Smith, OSBA's president in 1965, who also reported that the OSBA was still investigating the feasibility of such a system in May 1965. Roger M. Smith, "State of the Association," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 21 (May 24, 1965): 549.

[543] James L. Young, "The Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 7, (February 15, 1965): 179-180. James L. Young, "The Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 19 (May 10, 1965): 494-495.

[544] James L. Young, "The Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 7, (February 15, 1965): 179-180.

Things were further complicated by the fact that no operating systems in 1964 offered case law retrieval. Although by November 1964 a few successful demonstrations of computerized legal research had taken place, they were designed for legislation, not case law. The first two successful demonstrations took place in August of 1960 at the annual meeting of the American Bar Association in Washington, D.C.[545] On an IBM-650, John F. Horty and Nathan Hershey, both from the University of Pittsburgh Health Law Center, demonstrated a search of state health and hospital statutes.[546] Curious lawyers watched as an operator at the read-punch unit inserted the appropriate punch cards, then they waited as the IBM-650 hummed and blinked for 26 minutes before they finally saw it print the relevant citations of health and hospital statutes on tax issues relating to hospitals.[547] In addition to the demonstration, Horty also described the program at a panel discussion organized by the Electronic Data Retrieval Committee. A second demonstration, this time by the United States Patent Office, was carried out on a more advanced IBM-305 Ramac that could search design patent law.[548] Occurring at a nearby IBM facility, the demonstrations ran for 6 or 7 hours a day, allowing about 1,500 lawyers to witness the process.[549] Lawyers who attended the demonstrations described them as unusual and memorable.[550]

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[545] "Activities of the EDR Committee During 1960" in "Symposium of the Patent, Trademark, and Copyright Section," *M.U.L.L. Modern Uses of Logic in Law* 2 (1960): 153-154; F. Reed Dickerson, "The Electronic Searching of Law," *American Bar Association Journal* 47, No. 9 (September 1961): 902-908, 902; American Bar Association, 83rd Annual Meeting, Washington, D.C. (Chicago: American Bar Association, 1960): 72-73. John F. Horty, "Application of Information Retrieval Techniques to Legal Research," November 1, 1960, University of Pittsburgh, OBAR papers, Publications Box, Folder P24. Tina Batra Hershey and Donald Burke, "Pioneers in Computerized Legal Research: The Story of the Pittsburgh System," *Pittsburgh Journal of Technology Law & Policy* 18, no. 1 (2018): 32. Bourne and Hahn, *A History of Online Information Services,* 230.

[546] "Activities of the EDR Committee During 1960" in "Symposium of the Patent, Trademark, and Copyright Section," M.U.L.L. Modern Uses of Logic in Law 2 (1960): 153-154, 154; American Bar Association, 83rd Annual Meeting, Washington, D.C. (Chicago: American Bar Association, 1960): 72-73.

[547] 83rd Annual Meeting, 72.

[548] "Activities of the EDR Committee During 1960", 154.

[549] "Activities of the EDR Committee During 1960", 154. Hershey and Burke, "Pioneers in Computerized Legal Research,", 32. Bourne and Hahn, *A History of Online Information Services,* 230. The basic configuration for an IBM-650, IBM's first commercial business computer, consisted of a power supply, console unit, and read-punch unit. See: Type 650 Magnetic Drum Data-Processing Machine - Manual of Operation, Major Revision, Form 22-6060-1, IBM, 590 Madison Avenue, New York 22, NY (June 1955), 6. Standing at six feet tall and weighing almost 5,000 pounds, the power supply and console unit were hefty and occupied at least 45 square feet. See: Franz da Cruz, "The IBM Magnetic Drum Calculator," Columbia University Computing History, http://www.columbia.edu/cu/computinghistory/650.html.

[550] Dickerson, "The Electronic Searching of Law," 902.

While there is little to suggest that Young or Perrin witnessed any demonstrations in 1960, they came across John F. Horty's work in 1964 when they were surveying existing automated retrieval systems.[551] In November 1960, Horty had compiled a report that summarized the progress and development of the Pittsburgh system.[552] By 1964, Horty had made a national and international name for himself as a pioneer of automated legal research. In addition to a half dozen articles on the Pittsburgh System, he was often invited to speak at state and county bar association meetings. He also presided over the ABA's Special Committee on Electronic Data Retrieval.[553]

For the OSBA, the encounter with John Horty finally propelled the automated case retrieval project forward. Along with most of the OSBA, two OSBA lawyers, James F. Preston and William G. Harrington, were present at the annual banquet of the Ohio Bar Foundation in Columbus, Ohio, on November 5, 1965, when Horty presented his work.[554] Both lawyers were newly appointed to their roles at the OSBA: Preston was nominated as the OSBA president four months prior, while Harrington assumed office as the OSBA's research and legislative counsel merely four days earlier.

James F. Preston, Jr., a graduate of Harvard University (1932) and the University of Maryland Law School (1935), was not initially enthusiastic about taking a leading role at the Ohio State Bar Association.[555] He started out as a member of the State Bar Council of Delegates in 1950, and was elected to the Executive Committee of the OSBA in 1961, where he served until he was elected vice-president in 1964.[556] Jim Davis, who led Squire, Sanders, and Dempsey, asked Preston to run for president. He wanted someone from the firm to hold the

[551] Harrington, "A Brief History", 545.
[552] John F. Horty, "Application of Information Retrieval Techniques to Legal Research."
[553] Robert A. Wilson, "Minutes of the Annual Meeting of the Special Committee on Electronic Data Retrieval of the American Bar Association August 8, 1962," *M.U.L.L. Modern Uses of Logic in Law* 3, no. 4 (1962): 267–69, 269.
[554] Harrington, "A Brief History," 545; "Judge Paul Weick, Gillum Doolittle are Honored by OSBA Foundation Fellows," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 44 (November 15, 1965): 1207-1208.
[555] "James F. Preston, Jr., Endorsed for Vice President," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 6 (February 10, 1964): 130. Kathleen Carrick, "James Preston," Meeting Notes (July 14, 1992). P Series, Folder P67i, OBAR papers.
[556] "James F. Preston, Jr., Endorsed for Vice President"; "State Bar's 84th Annual Meeting A Success," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 22 (June 1, 1964).

position, and it was the Cleveland branch's turn to pick the nominee.[557] Following Preston's term as vice-president, he was automatically promoted to president on July 1, 1965.[558] Preston was a people person who was repeatedly recognized as a "super booster," a title reserved for OSBA members who were particularly successful in recruiting new members. Throughout his tenure at the OSBA, Preston remained a partner at Squire, Sanders, and Dempsey, where he headed the corporate department.[559] Known for its corporate and municipal practice, Squire, Sanders, and Dempsey employed 115 lawyers in 1967, making it the largest law firm in Ohio that year.[560]

As vice president, Preston must have been aware of the Institute's automated case retrieval project. As president, he dedicated both resources and human labor to promote the project. In a 1984 retrospective account, Harrington wrote that Preston was determined to be remembered for the initiation of a computer-assisted legal research service for Ohio lawyers.[561] Later, Harrington described Preston's contribution as small and claimed he was reluctant and puzzled.[562] Nevertheless, Preston served as the chairman of the OSBA's committee on computerized law research, and, in 1967, when the Ohio Bar Automated Research (OBAR) organization was established, he was elected its first president.[563] By both Preston's and Harrington's accounts, Preston did not have much interest in OBAR, and it was Harrington who did much of the practical work.[564]

Unlike Preston, who still maintained his Maine accent well into his eighties, William ("Bill") G. Harrington was an Ohio native. Harrington joined the OSBA on November 1, 1965 as

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[557] Kathleen Carrick, "James Preston," Meeting Notes (July 14, 1992).
[558] At the time, the Vice President was automatically promoted to President at the end of the President's one year's term. "James F. Preston, Jr., Endorsed for Vice President."
[559] "Squire, Sanders and Dampsey," Encyclopedia of Cleveland History. Case Western Reserve University. https://case.edu/ech/articles/s/squire-sanders-and-dempsey.
[560] "Squire, Sanders and Dampsey." Squire, Sanders and Dampsey exists to this day, under the name Squire Patton Boggs. It now includes 1,500 partners and lawyers and operates in 20 countries: "History," Squire Patton Boggs. https://www.squirepattonboggs.com/en/about/history.
[561] Harrington, "A brief History," 549.
[562] William Harrington to Kathleen Carrick, April 20, 1993, P Series, Folder P67b, OBAR papers.
[563] "Computerized Law Research System Established in Ohio," Press Release, January 26, 1967. P Series, Folder P14, OBAR papers; "Computerized Law Research System Established by State Bar," *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 5 (January 30, 1967): 135; "Ohio Bar Medal Awarded to Three Attorneys," *The Ohio Bar: Ohio State Bar Association Reports* 43, no. 20 (May 18, 1970): 629. "James F. Preston, Jr., Cleveland, to head 'OBAR,'" *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 22 (May 29, 1967): 664. Van Aken, *Buckeye Barristers*, 287.
[564] Kathleen Carrick, "James Preston," Meeting Notes (July 14, 1992).

its Research and Legislative Counsel, a full-time job.[565] Among the group of Ohio lawyers, Harrington was the one to remain involved in OBAR the longest, serving as a consultant for the project until the mid 1980s. Harrington earned an A.B. from Marietta College and an M.A. in history and government from Duke University. He then enrolled at the Ohio State University College of Law, earning his law degree and bar admittance in 1958.[566] He practiced law in Marietta and quickly became involved in the local bar association for Washington County, for which he was appointed secretary in 1960.[567] After that, he worked as an elections counsel for the Ohio State Secretary of State, a role he fulfilled from 1962 to 1965, when he left to work at the OSBA.[568]

Harrington, somewhat of an intellectual according to Preston, approached automated data retrieval methodically.[569] Unlike James Young and Bob Perrin at the Ohio Legal Center Institute, he thought that the problem in developing an automated data retrieval system was not merely financial. Reflecting on the OBAR project in 1984, he explained that although there was a lot of excitement about using computers for legal research in the 1960s, actual progress was not made:

> 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… 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.[570]

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[565] Harrington, "A Brief History," 545.
[566] "William G. Harrington, 68; Wrote Mysteries and Thrillers," *New York Times*, November 16, 2000, https://www.nytimes.com/2000/11/16/arts/william-g-harrington-68-wrote-mysteries-and-thrillers.html. "William George Harrington," The Supreme Court of Ohio Attorney Directory, https://www.supremecourt.ohio.gov/attorneysearch/#/26914/attyinfo. "The Fourth Estate says," *The Ohio Bar: Ohio State Bar Association Reports* 32, no. 29 (June 29, 1959): 587. "287 Successful Applicants to be Admitted to the Bar," *The Ohio Bar: Ohio State Bar Association Reports* 31, issue 38 (October 6, 1958): 840, 846.
[567] "The Fourth Estate Says," *The Ohio Bar: Ohio State Bar Association Reports* 33, no. 15 (April 11, 1960): 365.
[568] "The Fourth Estate says," *The Ohio Bar: Ohio State Bar Association Reports* 34, no. 12 (March 20, 1961): 315; "The Fourth Estate says," *The Ohio Bar: Ohio State Bar Association Reports* 35, no. 14 (April 12, 1962): 373; "William G. Harrington, Columbus, is New OSBA Research-Legislative Counsel," *The Ohio Bar: Ohio State Bar Association Reports* 38, no. 39 (October 11, 1965): 1076.
[569] Kathleen Carrick, "James Preston," Meeting Notes (July 14, 1992).
[570] Harrington, "A Brief History," 544.

At least in part, argued Harrington, the lack of progress was because few lawyers knew what was technically possible.[571] Computers were still few and far between in the early-to-mid-1960s and were largely concentrated in the military, business, and academic sectors, inaccessible and unfamiliar to most Americans, lawyers included.[572] After years of promises about the computer revolution without demonstrable results, lawyers grew understandably skeptical.[573] Throughout 1965, the OSBA was still focused on investigating the *feasibility* of electronic data retrieval, putting into question whether these plans would ever be achieved for Ohio lawyers.

While the project was still in the feasibility investigation stage, Preston and Harrington marked a clear path forward. The "Pittsburgh system" became the epitome of the information retrieval system that the members of the OSBA wished for. At first, the plan was to process questions posed by Ohio lawyers using the Pittsburgh System, coordinated by the Ohio Legal Center.[574] The Ohio group had been in continuous contact with John Horty since they started the project and traveled a few times to Pittsburgh to see the system in action. Even after it became clear that the OSBA would have to develop their own system in 1966, Horty's system served as the model. Horty's demonstrations had left a strong impression on Preston and Harrington, who both marveled at the results of the Pittsburgh system.[575]

"Mechanical Search": The Computer Takes Over

In December 1965, the OSBA, with Preston as its president, concluded that the Institute alone could not plan and execute an electronic data research program.[576] With no financial support from the Ohio Bar Foundation or any other source available, and given the substantial costs anticipated, the OSBA had no choice but to take over. It established a subcommittee of the executive committee dedicated to the issue. Headed by Richard ("Dick") C. Addison, a former

[571] Harrington, "A Brief History," 545.
[572] Joy Rankin, *A People's History of Computing in the United States* (Harvard University Press, 2018), 13.
[573] Diana Fitch McCabe, "Automated Legal Research," *Judicature* 54, no. 7 (February 1971): 283.
[574] James F. Preston, "Annual Report of the President," *The Ohio Bar: Ohio State Bar Association Reports* 39, No. 2 (May 23, 1966): 608-609.
[575] Preston, "Annual Report of the President."
[576] Preston, "Annual Report of the President."

president of the Columbus Bar Association and a member of the OSBA's Executive Committee, the subcommittee (also known as the "feasibility committee"), went to work right away.

With Horty's system serving as the model, the committee first approached accounting firms to gauge the cost of a feasibility report for a similar system.[577] When the cost was determined to be too high for the OSBA, they devised another solution. Rather than building their own system, they decided to negotiate an agreement with John Horty. Interested lawyers' questions will be processed by the Ohio Legal Center, which will send the queries to Pittsburgh, and handle the return of the processed queries.

As the feasibility committee was working on the details of automated legal research services, they were also grappling with substantive issues in the system's design. Reporting on the state of electronic retrieval of case law on March 21, 1966, *The Ohio Bar* published guiding principles for the desired system: full-text search, mechanical search, and wide availability.[578] The 1966 progress report blended the idea of full-text search, inspired by the Pittsburg system, with the earlier work of James Young and Bob Perrin at the Institute. The emphasis still was on automating the "mechanical aspects" of legal research. The report also made clear that the envisioned system would be costly to develop, and that any concrete plan would have to propose a funding scheme along with technical specifications.

The idea of "mechanical search" required some elaboration on the part of the authors. The search, reported the authors, "must not infringe upon the creative effort of the lawyer."[579] The computer would take over the mechanical and manual aspects of legal research, while leaving the analysis for the lawyer.[580] The computer offered a way to speed up manual work, but it was no match for the intellectual work of analysis and synthesis. It could make no judgment of its own.[581] A proper system would, explained the authors, automate the "mechanical aspects" of a

[577] Preston, "Annual Report of the President."
[578] "A Report: More on Electronic Retrieval of Case Law," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 12 (March 21, 1966): 300.
[579] "A Report: More on Electronic Retrieval of Case Law," 300.
[580] "Computerized Law Research System Established in Ohio," *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 5 (January 30, 1967): 136.
[581] James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 41, no. 14 (April 1, 1968): 417.

legal inquiry, without encroaching on the substantial ones.[582] In this version, the demarcation between the mechanical and substantive aspects of legal research turned on the issue of judgment.

A clue to why judgment made it into the discussions of the new system can be found in a subsequent report, written by Preston in May 1966, merely two months after the OBAR progress report.[583] Preston devoted an extensive part of the annual president's report to a discussion of OBAR. His description of the planned system highlighted, too, the mechanical nature of the search. After describing in detail the model for the OSBA's system (Horty's system), Preston turned to discuss a possible challenge to such a system. He suspected that developing the automated system might violate the Canons, the ethical rules that governed lawyers' activities. Specifically, he was worried about the prohibition on "unauthorized practice of law." Non-lawyers, including professional associations like the OSBA, could not legally practice law. Preston turned to two OSBA committees, the Unauthorized Practice Committee and the Legal Ethics Committee to examine whether OSBA's plan to provide legal research services with the aid of a computer could violate the prohibition. The conclusion was that as long as the provided service included only processing legal questions, it could not be considered as "practicing law."[584] It could summarize existing material, but it could not pose new questions.

This was a fine line. The OSBA has been long digesting court decisions, indexing them, and delivering them to OSBA members. But, as the OSBA committees reasoned, the distinguishing feature was judgment. As long as it was the lawyer who formulated the legal question and the machine made no determination, it was as if the lawyer automated only the labor of locating, fetching, and opening the books. The earlier report, from March 1966, hinted that the insistence on "mechanical search" was motivated by the issue of unauthorized practice:

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[582] "A Report: More on Electronic Retrieval of Case Law," 300.
[583] Preston, "Annual report of the President," 609.
[584] In the United States, the issue of "unauthorized practice" is used to limit the practice of law to lawyers. State legislation usually restricts the practice of law to lawyers admitted to practice law and prohibits any person who is not a licensed attorney from practicing law. Although both OBAR and the OSBA were corporations by and for lawyers, they could nevertheless fall under the broad restrictions on corporations that were the target of "unauthorized practice" laws since their inception in the late 1800s. See: Barlow F. Christensen, "The Unauthorized Practice of Law: Do Good Fences Really Make Good Neighbors-Or Even Good Sense?," *American Bar Foundation Research Journal* 5, No. 2 (Spring, 1980): 159-216.

"In the investigation of the concept every effort has been made to avoid any implication of corporate practice or any excursion into the practice of the inquiring lawyer."[585]

In the process of articulating the specifications of a system for Ohio lawyers, the image of legal research was also being refined. Judgment was offered as the demarcating line between the mechanical and substantive aspects of legal research. The machine was not meant to replace the work of a lawyer, but only the technical tasks that could be delegated to a non-lawyer. Lawyers' judgment was to be protected from, not encroached upon by, the machine. This was not only a result of general fears of automation (which the OSBA, as lawyers' professional organization, had to be sensitive to). It resulted from the specific protections that guarded the boundaries of the legal profession.

The Anonymous Third Person

In 1967, three years after the Ohio group started their investigation into automated legal research, they had an official name for their system. January 26, 1967, marked the incorporation of the Ohio Bar Automated Research (OBAR) corporation, a non-profit (and a subsidiary of the OSBA) for the electronic search of the law.[586] Preston was appointed OBAR's president in May 1967. OBAR's executive committee included Harrington, who was appointed vice-president, as well as OSBA senior officers Francis L. Dale, Joseph B Miller, Norton R. Webster, and Robert D. Moss. The group announced both the incorporation of OBAR and the establishment of a working system by 1968.[587] While the initial motivation of saving lawyers' time by mechanizing manual labor was still evident, the announcement offered an additional reason for pursuing an automated legal research system. If previous explanations of the OBAR system focused on the comparison between print and the computer by highlighting the inefficient physical nature of paper research, this explanation focused on the inherent fallacy of existing research tools, whether paper- or computer-based: their subjectivity.

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[585] "A Report: More on Electronic Retrieval of Case Law," 300.
[586] "James F. Preston, Jr., Cleveland, to head 'OBAR,'" *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 22 (May 29, 1967): 664; "Computerized Law Research system established by state bar," *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 5 (January 30, 1967): 135-136.
[587] "Computerized Law Research System Established by State Bar."

Legal research systems, explained the article, could be of two types: "full-text" and "digest."[588] Unlike a full-text system which contained the full text of court cases, a digest system contained summaries prepared by a human editor. Preston, quoted in the article, explained that a full-text system was superior because it did not inject an "anonymous third person" between the attorney and his client. A survey questionnaire administered in mid-1967 similarly rejected a digest system since it "inevitably intrudes the subjective judgment of an editor between the attorney and the law he wants to search."[589] The concern with the inefficiency of paper legal research methods was supplemented by a concern with their subjectivity. The latter concern was embodied in "an anonymous third person" who injected subjective judgment into the legal research process.

What accounted for this ideological pivot, merely nine months after the previous progress report (published in March 1966)? Once the Ohio group abandoned the idea of using Horty's system, they began searching for a computer company to develop a system suitable for Ohio lawyers.[590] By December 1966, the Ohio group had zeroed in on Central Media Bureau, a New York-based company with a contract to computerize the printed indexes of the *New York Times*.[591] Before the final details could be worked out, the Ohio group was contacted by a local computer company, Data Corporation. Data Corporation offered to adapt an existing general-purpose full-text search software, Data Central, for the OSBA's needs.

The interaction and collaboration with Data Corporation meant that ideas and terms from the rapidly developing world of information systems made their way into the design and development of the Ohio system. The Ohio group might have been content with a full-text case law search system based on Horty's system if not for Richard (Dick) Giering, an army captain turned developer at Data Corporation.[592] Giering pointed out that although Horty's system was a

[588] "Computerized Law Research System Established by State Bar."
[589] "Ohio State Bar Association Computer Law Searching Program," undated (presumed to have been written between September 1967 and December 1967), D Series, Folder D8, OBAR papers.
[590] Harrington, "A Brief History", 547.
[591] Bourne and Hahn, 236, 323. Susanne Bjørner and Stephanie C. Ardito, "Online Before the Internet, Part 5: Early Pioneers Tell Their Stories: Richard Giering" *Information Today* (January 2004), https://www.infotoday.com/searcher/jan04/ardito_bjorner.shtml.
[592] Bourne and Hahn, 193, 239

full-text system, it was nerveless problematic because the team's lawyers served as "intermediaries between the people who wanted the information and the information itself."[593]

For Giering, the OSBA's specific problem fitted into a bigger category: information retrieval. Data Corporation was set on developing a system for the "end-user" and not for information specialists like librarians.[594] In part, this was because Data Corporation's engineers realized that with military contracts exhausted, they had to find an alternative market for their software.[595] The penetration of more and more computers into offices might have signaled to Data Corporation that there was yet a larger market to be had if they targeted users who did not specialize in information. The OSBA fitted the bill. It was local to Ohio and was actively looking for a computer company.

Even with Data Corporation's worldview shaping how the Ohio group came to understand the OBAR system, the translation from computer and information to lawyers and case law was not smooth. Giering talked about the need to eliminate any intermediation between the information seeker, the person who needed or wanted information, and the information itself.[596] For the lawyers, at least at first, it was not entirely clear who was doing the intervening and where it was taking place. Preston described the future system as one that "does not interject *an anonymous third* person *between the attorney and his direct responsibility to his client*."[597] Harrington explained that the problem was a "*separate intelligence*" that "intervenes between *the lawyer who is doing the research and the judge or legal scholar who wrote the material being researched*" in 1970.[598] It was not exactly clear what Giering's "information" was mapping onto.

The OBAR system, starting operation in 1969, was a collaboration between lawyers and technologists. But there was one element of the system that was developed entirely by lawyers:

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[593] Bjørner and Ardito, "Online Before the Internet, Part 5."
[594] Bjørner and Ardito, "Online Before the Internet, Part 5."
[595] Zhu, "Innovation in Search of a Context."
[596] Bjørner and Ardito, "Online Before the Internet, Part 5."
[597] "Computerized Law Research System Established by State Bar," *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 5 (January 30, 1967): 136.
[598] Harrington, "Computers and Legal Research", 1146.

the system's definition.[599] According to their often-repeated narrative, the system's definition preceded any negotiations with technologists, and its specificity was a significant deterrent to computer companies.[600] And since the definition focused directly on the elimination of any and all mediation between lawyers and published court cases, this narrative implied that the worry about subjectivity came from the lawyers, not the technologists.

The definition, famous for its vision and breadth, defined the desired system as non-indexical, full-text, on-line, and interactive.[601] Each of the components of this definition was geared towards eliminating some form of intervention: removing librarians, legal editors and publishers, technicians, secretaries, and even other lawyers from the process of legal research. The "non-indexical" component was meant to free lawyers from "the constraints of indexing,"[602] but also from librarians. The "full-text" component was meant to allow lawyers access to the full text of court decisions, removing headnotes and digests. Prepared by lawyers, legal publishers, and legal scholars, headnotes and digests were dismissed as subjective. The "on-line" and "interactive" components meant that the "work was to be done by researchers in direct and immediate contact with the computer, not by intermediaries."[603] Technicians, typists, secretaries, and even other lawyers, were in the way of legal research. An online and interactive search was meant to allow lawyers to access the information directly, adjusting their queries as they went along, not passing through any intermediaries.

Between Intermediation and Interactivity

Designing the new system was not only a matter of technical specifications, it also included articulating a new type of relationship between users and computers. To forge such a relationship, some work had to be done to define the boundaries of inclusion and exclusion. With the focus on intermediation, it was becoming clear that OBAR pioneers wished to exclude anyone who was not the practicing lawyer from interacting with the computer. The flip side of

[599] James F. Preston Jr., "OBAR and Mead Data Central System," *Law Library Journal* 64, no. 2 (May 1974): 190; Harrington, "A Brief History", 545.
[600] Harrington, "A Brief History", 547.
[601] Harrington, 547.
[602] Harrington, "A Brief History", 549.
[603] Harrington, "A Brief History", 546.

the elimination of intermediation was the focus on the system's interactivity, responsiveness, and dialogical nature. Through an emphasis on the system's online and interactive nature, its pioneers were drawing practicing attorneys and computers into a close pair.

Although in the traditional OBAR account, the online and interactive characteristics of the system were part of its famous four prong definition, they cannot be traced to 1966. They were absent from the March 1966 progress report. They were not part of the announcement of OBAR in 1967. It was only with the incorporation of time-sharing into the system in 1968 and 1969 that an online and interactive experience became possible. Over the course of those years, users and computers were brought together in an exclusive relationship.

At first, when the OSBA was still planning use Horty's system, the plan was to process the questions through the Ohio Legal Center.[604] Even when, in 1967, it became clear that the Ohio group and the OSBA would develop their own system, the Ohio Legal Center was still planned to serve as an intermediary between Data Corporation's computers and interested lawyers.[605] As Data Corporation was finalizing its contract with OBAR in the summer of 1967, it was agreed that a remote console placed in OBAR's offices in Columbus, Ohio, would be connected with Data Corporation computers in Dayton, Ohio.[606] The remote console was to be online during prescheduled times, allowing a direct line to the computer for at least 30 minutes twice a day. At a minimum, OBAR's staff was to serve as an intermediary between lawyers and Data Corporation's system.

There were many practical reasons to rely on the assistance of intermediaries in OBAR's early days. For starters, using the computer was costly. OBAR was to pay $236 per month for renting its remote terminal equipment (a "1050") and $175 for each hour of online computer

[604] James F. Preston, "Annual Report of the President," *The Ohio Bar: Ohio State Bar Association Reports* 39, no. 21 (May 23, 1966): 601–32, 608-609.
[605] "Ohio State Bar Association Computer Law Searching Program," Survey, undated (presumably 1967). D Series, Folder D8, OBAR papers; James L. Young, "Ohio Legal Center Institute," *The Ohio Bar: Ohio State Bar Association Reports* 37, no. 39 (October 12, 1964): 1064.
[606] Ralph E. Welsh to William G. Harrington, June 27, 1967, C Series, Folder C1, OBAR papers.

service.[607] In addition, using the computer system required at least some training.[608] Early publishing materials explained that an "attorney-search-editor" would assist lawyers in using the system, particularly with "search framing," the conversion of a legal question to proper computer syntax.[609]

Only in mid-1968 did OBAR start to entertain the idea of placing remote terminals in large law firms. These "input machines" or "1050," a teletype to card punch machine, would allow lawyers to transmit their typed questions directly to the Ohio Legal Center.[610] The questions would be transmitted to the card punch machine and then put directly into the computer at the Center, as they were framed by the lawyers. The goal was not simply to save time (although that was also a significant factor), but to provide greater control to the lawyers by eliminating the need for a search editor. This was a temporary adjustment, meant to be used until the development of time-sharing capabilities would allow "immediate direct access to the computer."[611]

Time-sharing, the technological development that allowed more than one user to use a single computer, was first developed at MIT in 1961.[612] Most universities had a single computer that served an array of researchers, scientists, and students. Although computer users developed different methods to use the expensive computer time efficiently, like batching programs through a "computer center," or allocating certain times to various departments, the pressure on computer time was continuously increasing. Time-sharing was developed as a solution.[613] It allowed multiple users to access the same mainframe computer through distinct terminals. Even though time-sharing was already available in some institutions in the early 1960s, it was largely

[607] "Agreement between Data Corporation and Ohio Bar Automated Research," September 22, 1967, M Series, Folder M2, OBAR papers.
[608] Harrington, "Computers and legal research"; Bourne and Hahn, 249.
[609] "Ohio State Bar Association Computer Law Searching Program," survey, undated (presumably 1967). OBAR papers, Database Box, Folder D8.
[610] James F. Preston, "Report," May 15, 1968. C Series, Folder C2A, OBAR papers.
[611] Preston, "Report," May 15, 1968.
[612] Martin Campbell-Kelly, William F. Aspray, Jeffrey R. Yost, Honghong Tinn, and Gerado Con Díaz, *Computer: A History of the Information Machine*, 4th ed. (New York: Routledge, 2023), 209.
[613] Campbell-Kelly et al., *Computer*, 209-210.

experimental – the result of the tinkering of users. It took several years before computers designed for time-sharing were available commercially.[614]

Time-sharing was crucial to the "on-line" and "interactive" features of the OBAR system. At first, since the OBAR database was on a computer located at the Data Corporation headquarters in Dayton, Ohio, unmediated accesswas only possible on site. Before time-sharing was available to them, OBAR developers had no choice but to rely on intermediaries who would manage the access and use of the computer.

Time-sharing first became available for OBAR subscribers around February 1969.[615] Frank Troy, OBAR's president in 1969, explained that

> with the advent of this concept [time-sharing], it is now possible for every lawyer, law firm, county law library, or governmental law agency to obtain a computer communications console and to query the computer directly rather than having each lawyer submit his questions through the Ohio Legal Center as was first anticipated.[616]

Time-sharing enabled lawyers to have their own terminals.[617] In the winter of 1969, OBAR executives sent numerous letters to interested lawyers explaining that they could order consoles to be placed in their offices, allowing direct communication with the computer "at any time during the day."[618] Once consoles populated offices and governmental law libraries, the Legal Center would no longer serve as an obligatory passage point in the lawyers' quest for case law.

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[614] Campbell-Kelly et al., *Computer*., 218.
[615] The earliest date in which OBAR employees mention that the feature of time-sharing is available to OBAR users is February 5, 1969. William G. Harrington to Arnold Notkoff, February 5, 1969. C Series, Folder C3, OBAR papers. Additional letters from March 1969, May 1969, and July 1969 also mention that time-sharing had "recently" become available, see: William G. Harrington to Reed C. Lawlor, March 12, 1969. C Series, Folder C3, OBAR papers; William G. Harrington to Richard Robbins, May 14, 1969, C Series, Folder C3, OBAR papers; Frank J. Troy to Robert S. Kraft, July 23, 1969, C Series, Folder C3B, OBAR papers.
[616] Troy to Kraft, July 23, 1969. The letter to Richard L. Robbins predates this letter but does not contain the details. William G. Harrington to Richard Robbins, May 14, 1969, C Series, Folder C3A, OBAR papers.
[617] McCabe, "Automated Legal Research," 283. Harrington, "Computers and legal research," 1146. See also Harrington et al., "The Mead Data Central system," 185, on the elimination of "computer experts" from the interaction between the lawyer and the computer.
[618] William G. Harrington to Reed C. Lawlor, March 12, 1969, C Series, Folder C3, OBAR papers.

The interactive feature of the OBAR system was key to the new concept of legal search. Because there were no intermediaries, and thus no expert help, the lawyer depended on the system to complete his legal research. An interactive system meant that the lawyer could refine the search, adjusting the search terms according to the received results. To explain this development, Harrington contrasted it to a "one shot" search. Operating systems in 1965 and 1966 operated in the following way: "lawyers submitted a search to the computer by communicating it, not to the computer itself, but to technicians at the computer center, and the center answered his question by sending him a body of printed material."[619] Since online time was costly, searches were queued, and it took time to deliver the results of the search to the searcher, no immediate adjustment of search terms was possible. An interactive, online system gave the individual lawyer much more control. She no longer depended on the services of technicians, librarians, or even the organized bar.

Still, even with remote terminals and time-sharing capabilities, many lawyers relied on using the phone to search the OBAR database. Given that only a handful of dedicated terminals existed in 1970, OBAR's dedicated phone service was a popular choice. The service was operated by OBAR-trained lawyers who could help decide which key words or phrases to use. When the search was completed, the user could choose to hear the citations over the phone or to request a printout via mail. It was economical too. At least initially, OBAR charged users a fixed fee for searching a legal issue to its conclusion.

Even though lawyers often chose the phone service over other options, it was offered as a compromise. OBAR developers encouraged users to conduct their own searches. They explained that individual searches, using a terminal directly, were easier, quicker, cheaper, and lead to superior and more accurate results.[620] Talking with an expert, even when the expertise was as specific as the OBAR system, was a neither necessary nor desirable part of legal research.

[619] Harrington et al., "The Mead Data Central system," 187.
[620] Troy, "Ohio Bar Automated Research", 68.

A progress report from 1969 explained that the original intention was to have all the requests for computer searches processed by the Legal Center.[621] A team of search framers was then to "frame the searches" and transmit them to the computer. Lawyers depended on the Legal Center for their framing services, their input into the remote computer terminal, and the provision of search results. Time-sharing, explained the report, made it possible to circumvent the Legal Center, allowing lawyers to "speak directly to the computer." This amounted to a conceptual change for the entire search service, continued the report. Now, the search could be performed immediately and directly. When the first descriptions of the new system were published in 1969 and 1970, they described the available system, not the vision that predated it.

Conclusion: The Changing Nature of Legal Research

The process of automating legal research required technological and conceptual work. As OBAR pioneers engaged in the effort of designing a working computerized legal research system, they also unpacked what legal research was. At first, legal research was described as consisting of two spheres: a mechanical sphere and a substantial sphere. Conceptually, legal research could be divided into different types of tasks: tasks that were more physical in nature, like fetching books, and tasks that were more cognitive, like articulating legal arguments or developing a line of conceptual reasoning. Types of people could be mapped onto the tasks: mechanical tasks could be delegated, while substantial ones could not. This concept of legal research had its roots in the division of labor in the office. Legal assistants, who were originally referred to as legal technicians, were the type of people who could complete the mechanical aspects of research. In this early stage, the computer was assigned to the "mechanical" side of legal research. It was allocated the physical, mechanical aspects of research. Judgment served as the demarcating principle between the mechanical and substantial.

As development progressed, however, the distinction between mechanical and substantial aspects of research lost its potency. In post-1966 formulations of the emerging OBAR

[621] "OBAR-A Report," *The Ohio Bar: Ohio State Bar Association Reports* 42, no. 36 (September 22, 1969): 1149-1151.

system, the prevailing distinction was not between types of tasks but between people. Judgment was no longer what distinguished the mechanical from the substantial aspects of legal research. Rather, it was an inherently human trait. Judgment differentiated among people, not between people and machines. Judgment now belonged to specific people. It was subjective.

The early days of the investigation into the automation of legal research revolved around the "mechanics" of legal research. "Mechanics" meant work with law books. But what about the "mechanics" of the computer? It was Harrington who wondered, in 1974, whether OBAR had "freed the lawyer from the drudgery of hauling books down from library shelves only to saddle him with another mechanical task - the manipulation of a complex computer terminal."[622] Aside from this comment, which Harrington never expanded upon, the computer's "mechanics" received little attention from OBAR pioneers. Paradoxically, as a computerized legal research system was nearing completion, concern over the mechanics of legal research was giving way to concern over the humanity of intermediators.

This chapter has argued that the turn to "end-users" went hand-in-hand with an emphasis on the subjectivity of human judgment, and that the question of judgement was a way to divert attention away from the computer as an intermediary while touting its neutrality and objectivity. The continuous interaction with the ideas and techniques of information retrieval made technicians, librarians, and other lawyers into the problem to be solved. The focus on "end-users" forged an exclusive bond between a single user and a single computer. Intermediation, the intervention of others in the legal research process, was replaced with interactivity, a one-on-one dialogue with the computer.

[622] Harrington, "What's Happening in Computer-Assisted Legal Research," 928.

Excursus 1

Talking with the Computer

In 1969, with the OBAR system in an operating condition, the Ohio group set out to demonstrate the system at the 1969 ABA convention in Dallas, Texas.[623] William G. Harrington and Frank J. Troy from OBAR were to join Patrick (Pat) Holdrieth and Leonard (Len) A. Weibel from Data Corporation in running demonstrations for the three days of the conference.[624] Operating from booth 217 at the Lawyer's Exposition, the team planned to demonstrate the complete working legal database, by then containing Ohio Statutes and Ohio Supreme Court case law. OBAR and Data Corporation placed an ad in the July 1969 issue of the ABA journal to advertise the demonstration.

Running a quarter of a page, the black-and-white ad ran under the title "Talk law with a computer in plain english! [*sic*]"[625] The ad described the OBAR system as "an amazingly swift, accurate and simple system to use."[626] According to the ad, an interested lawyer could search the full body of Ohio law by ringing up a computer and asking, using ordinary terms, for Ohio statutes and case law. The ad promised an easy-to-use system: "You'll be able to operate it yourself in five minutes. All you have to know is law. No special codes."[627]

OBAR's marketing campaign was meant to present the system as interactive, akin to a dialogue with a person. "Plain English" was contrasted to computer code. "Very little computer training" is required to operate the OBAR system, explained a press release from August 1969.[628] "No computerese," guaranteed another from January 1971.[629] Every effort was made to turn the interaction with the computer into something familiar: a conversation with another human.

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[623] N Series, Folder N1, OBAR papers; P Series, Folder P5, OBAR papers.
[624] Memorandum by L. A. Weibel, July 18, 1969, N Series, Folder N1, OBAR papers.
[625] Memorandum by L. A. Weibel, July 18, 1969.
[626] Memorandum by L. A. Weibel, July 18, 1969.
[627] Memorandum by L. A. Weibel, May 29, 1969, P Series, Folder P5, OBAR papers.
[628] Press Release, August 22, 1969, P Series, Folder P14, OBAR papers.
[629] "The fastest, most thorough system to research Ohio law is now available to you in Columbus." Press Release, January 1971, P Series, Folder P14, OBAR papers.

An early user manual also explained the system by equating it to a conversation.[630] "The computer talks to us in CAPITAL LETTERS. We talk to the computer in small letters," opened the explanatory note. The legal question at issue, a staple of demonstrations, published articles, and training materials, was about exempting giveaway materials from sales tax.[631] The "conversation" between the user and the computer was translated into easy-to-understand terms. The computer's responses were described using active verbs like "says," "finds," and "asks."[632]

[630] "Ohio Bar Automated Research," Manual, 1969, D Series, Folder D22, OBAR papers.
[631] The questions and its role as part of the demonstrations is discussed at length in Chapter 5. It also appeared in the first published article about OBAR: Frank J. Troy, "Ohio Bar Automated Research - A Practical System of Computerized Legal Research," *Jurimetrics Journal* 10, no. 2 (December 1969): 62-69.
[632] "Ohio Bar Automated Research," Manual, 1969, D Series, Folder D22, OBAR papers.

EXPLANATORY NOTE

The computer talks to us in CAPITAL LETTERS. We talk to the computer in small letters.

BILLING # AND REQUEST
#84
$any equ tax or taxes or taxation (w2) sale* or use
0131 DOC'S; PRINT?
m
ADD REQ
and adverti******* or promotion*** or giveaway
0014 DOC'S; PRINT?
m
ADD REQ
and direct or directly
0010 DOC'S; PRINT?
p2
FORMAT,OD
40,p

$ any equ is simply a code signal, telling the computer to search the full text of the cases in its memory for statements logically equal to the following specifications.

(W2) tells the computer to look for sentences in which the words tax or taxes or taxation fall within two words of sale or sales or use--thus, the phrases "sales tax" or "use tax" or "taxation of sales" etc.

The computer says it finds 131 cases with these phrases in them. It asks if we want to see those cases printed out.

We say no. Our m means we want to modify the search. The computer then says ADD REQ--meaning, go ahead and modify.

We tell the computer to find, among the cases with the phrases about taxes in them, cases which also have the words advertise, promotion, etc. (The asterisks are universal characters. In other words, adverti******* causes the computer to locate advertise, advertises, advertised, advertising, advertisement, advertisements, etc.--any word with the base adverti and letters following in any number up to the number of asterisks.)

The computer says that out of 131 cases on sales and use taxes, 14 also talk about advertising, promotion and giveaway. Do we want it to print those?

No, we modify by adding a requirement that the words direct or directly also appear in the case--thus going after the direct use exemption to the sales tax.

The computer finds 10 cases which meet all three search commands--that is, they talk about the sales tax, talk about advertising and promotion, and talk about the direct use exemption. We order the computer to print, it asks us how we want it printed--in what format and by what printing device--and we tell it format 40, printer.

The computer now proceeds to print the 10 cases for us. See how this search actually works out, on the next page and succeeding pages.

Figure 1: Explanatory Note, "Ohio Bar Automated Research," Manual, 1969, D Series, Folder D22, OBAR papers.

The manual also unpacked the basic lines of code required to operate OBAR. A legal question focused on an oil's company ability to exempt expanses on promotional and giveaway materials from sale and use tax was turned into the following query:

$any equ tax or taxes or taxation (w2) sale or sales or use
m
and adverti******* or promotion** or giveaway
m
and direct or directly[633]

The dollar sign operator ($) was used to begin the search. The operator "any" meant that the search was a full text search. The operator "equ" was an abbreviation for "equals." It was followed by "tax" or "taxes" or "taxation" as search terms. The operator "(w2)" instructed the computer to search for sentences in which the search terms on either side of the operator fell within two words of each other. The operator "*" was used to replace any characters (universal characters).

The process of converting a legal question into a series of search terms – operators and connectors – was referred to as "search framing." A legal question was to be arranged and stated in terms the computer can recognize.[634] But this was not only a matter of syntax. Adjusting the query, for example, was done based on the number of entries alone. This prioritized narrow terms, usually ones that revolved around facts, not concepts, to minimize the number of entries. Most examples of OBAR's searches included at least one or two such adjustments to exemplify the principle.

The more sophisticated the system appeared, however, the harder it was to make the case that it offered an unmediated interaction. The computer was presented as the solution to the problem of human subjectivity and as human-like, capable of a back-and-forth conversation. No where was this paradox more visible than in the training materials and the concept of "search

[633] Troy, "Ohio Bar Automated Research," 64-65.
[634] Troy, "Ohio Bar Automated Research," 64.

framing." Although OBAR developers touted the system's "plain English," it was far from intuitive or simple to use. "In spite of the simplicity of the interface design and the tailoring of the system to lawyers' needs and preferences, the lawyers' need for a day or two of training became apparent, as did the need for a manual," explained Harrington in 1970.[635] Sitting in front of an OBAR terminal, the lawyer could not simply enter search terms in plain English. The system required a specific syntax.

"Search framing" was a skill. It required precision of legal terminology and a familiarity with the computer.[636] Paper legal research relied on printed volumes and finding aids. The books offered guidance; in using treatises, digests, indexes, and other secondary materials, lawyers did not have to start from scratch. The computer was a different experience altogether. The lawyer would encounter a screen prompting her to enter keywords, operators, and connectors on a blank screen. Rather than browsing, relying on categories and the organization of others, the lawyer had to determine the search terms alone.

"Search framing" changed the nature of interaction that lawyers had with legislation and court cases. It had to be learned, not just the computer-specific syntax, but the implications for the legal research experience. Manual research and computer research differed in many ways. One example was the decision to conclude the research session: in manual research, lawyers had to decide when they had done enough research or, pressed for time, hope that what they had done would suffice. In computer research, they relied on the list produced by the computer. Going through the items on the list would conclude the search. Another example was the calibration of a research question. Relying on a number (of results) was a different way of assessing whether one's terms were narrow or broad, not similar in any way to manual legal research.

"Search framing" was primarily a process of conversion, but it also marked a space between the substantial and mechanical aspects of legal research. Before the computer, lawyers relied on their bodies and their minds to go through printed volumes and indexes, refining their

[635] Charles P. Bourne and Trudi B. Hahn, *A History of Online Information Services: 1963–1976* (Cambridge: MIT Press, 2003), 249.
[636] William G. Harrington, "Computers and Legal Research," *American Bar Association Journal* 56, no. 12 (1970): 1148.

concepts and questions as they leafed through books or discussed a legal case with a more experienced colleague. With the computer, legal research practices were formalized into a computer protocol, hiding the mechanical aspects of legal research inside a machine.

More than anything, describing the system as "interactive" was meant to make it more palatable for lawyers. The extent to which a user really "interacted" with the computer was limited. Like scholar Lucy Suchman had documented, describing systems as "interactive" was meant to evoke human contact, but any "interaction" often fell short of a meaningful exchange.[637] This interactivity, however, offered something new to lawyers used to relying on books for legal research: a response. OBAR's marketing and instructional materials capitalized on this novelty. The computer was presented as a sophisticated machine (capable of "interacting" with a human) and one that did not require additional work in training or "translating" legal questions into "computerese." The promise of talking with the computer in "plain English" reassured potential users that the computer's sophistication would result in less work for them.

OBAR's developers went out of their way to convince lawyers that using the computer was not just superior to other methods but was also easier. Although OBAR's developers insisted in their publications and demonstrations that the system could be used by lawyers themselves, lawyers were reluctant to use it. Operating a computer was considered a manual task similar to typing, both performed almost exclusively by women.[638] Lawyers were reported to approach the terminal with a mix of "fear and awkwardness," while protesting that "they had no idea how to type, much less how to control a computer."[639] Rather than being an unmediated way to conduct legal research, the computer was a barrier to overcome.

Turning legislation and case law into "data" and "information" included not only the physical conversion, the transfer of the content of printed volumes onto punch cards or magnetic tape, but also a conceptual change. As information, case law was identical to other types of

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[637] Lucy Suchman, *Human-Machine Reconfigurations: Plans and Situated Actions*, 2nd ed. (Cambridge: Cambridge University Press, 2006).
[638] Janet Abbate, *Recoding Gender: Women's Changing Participation in Computing*, (Cambridge: MIT Press, 2012); Nathan Ensmenger. *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise* (Cambridge: MIT Press, 2010).
[639] Harrington, "Computers and Legal Research."

information. OBAR's developers were operating under the assumption that printed court decisions and entries in a computer database conveyed the same information. After all, this was the whole purpose of eliminating the mediation through the introduction of full-text search. There was no point in insisting on eliminating mediation if the computer was yet another intermediary between court cases and the lawyer.

Chapter 5

Trust in Search: Credibility and Doubt in Early Legal Information Technologies, 1970-1976

In 1969, OBAR was finally an operating system with computer terminals, technical support, and formal training sessions. The system was, however, far from complete. Its developers continued to add court decisions to the database, troubleshoot unexpected issues, survey its users, and market the system vigorously. This chapter traces how belief and trust in the system were cultivated and how lawyers who came face-to-face with an OBAR terminal for the first time responded. The first section focuses on how OBAR developers sought to persuade lawyers to try and trust the system. Demonstrations, presentations, and training sessions focused on acquainting lawyers with a new process for legal research. They were meant to help lawyers reimagine legal research by focusing on the skills required for automated legal research. The second section details a case where the system's accuracy and reliability were cast into doubt by one of its early users. At issue were the competing notions about how to evaluate the system's accuracy and who was in a position to do so. Finally, the third section describes how, for most users, reliability was not understood as a substantive matter but rather a technical one. Although users (and developers) continued to complain about the system's unreliability, they meant that technical issues like error messages or unresponsiveness precluded them from using it. The system's promise held despite disappointing performance, and its user base only grew with time.

This chapter follows events through the point of view of the Cleveland law firm of Arter & Hadden, one of the first law firms in Ohio to have an OBAR console. Arter & Hadden's origins extended back to Cleveland's oldest legal partnership, forged in the mid-19th century between George Willey and John Cary.[640] Known by many names that reflected its many mergers, it finally settled on Arter & Hadden in 1969, a name that would persist until the firm's dissolution in 2003. At the end of the 1960s, Arter & Hadden was part of a small cadre of large law firms in Ohio, most of which were concentrated in Cleveland's downtown area. The chapter begins with the process of installing an OBAR terminal at the firm's offices in 1970, detailing

[640] "Arter & Hadden," Encyclopedia of Cleveland History, Case Western Reserve University. https://case.edu/ech/articles/a/arter-hadden.

how it was operated and by whom, and continues to consider the challenges that the firm's occupants encountered as they interacted with the system. Legal secretaries, summer clerks, paralegals, librarians, customer support, and marketing representatives played key roles in introducing the system to law firms and solidifying its presence there.

I argue that trust in the new system was collaboratively produced between developers and users: the developers aimed to cultivate belief in the system's reliability and accuracy, just as the lawyers-turned-users wished to believe that the system could fulfill its promise to revolutionize legal research. The system malfunctioned more than it worked, it seemed no one had a clear sense of which court opinions were included in the database, and the subscription price constantly grew. However, the number of OBAR subscribers also grew, and gradually it began to spread into other states like New York and Missouri. Trust in the system was produced in willful collaboration between developers and users, with the only barrier being the computer's disobedience. Malfunctions, errors, and unresponsiveness were recast by OBAR's developers as temporary impediments that did not undermine the computer's promise of accuracy.

The chapter fits into an extensive literature that explores and analyzes trust in society, much of which has a special focus on sociotechnical systems. The first generation of sociologists who studied trust described how trust transformed from complete dependence on personal and local ties in traditional societies to universal trust in "abstract capacities" (like money) and institutions (like the government or state).[641] A key finding from these scholars' work was that trust could not be completely reduced to either knowledge or belief, but that these concepts nevertheless played a key role in understanding trust in society. A necessary precondition of trust was at least some ignorance.[642] If one had full knowledge or full information, trust was not necessary. They also found that trust was not merely an extension of one's knowledge; it was not a calculated decision based on inductive reasoning.[643] Trust thus involved at least some element of belief or "blind trust."

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[641] Georg Simmel, *The Philosophy of Money*, trans. Tom Bottomore and David Frisby (London: Routledge, 1978); Max Weber, *The Theory of Social and Economic Organization*, ed. Talcott Parsons (New York: The Free Press, 1947); Ferdinand Tönnies, *Community and Society*, trans. Charles P. Loomis (Mineola: Dover Publications, 2002).
[642] Simmel, *The Philosophy of Money*; Anthony Giddens, *The Consequences of Modernity* (Stanford: Stanford University Press, 1991).
[643] Simmel, *The Philosophy of Money*; Giddens, *The Consequences of Modernity*; Tönnies, *Community and Society*.

The second generation of scholars who studied trust also explored the trifecta of trust, knowledge, and belief. They sought to describe the mechanisms and technologies of trust in more detail. They documented the pull towards greater objectivity that led to a greater reliance on numbers, machines, and algorithms.[644] The latter seemed to operate according to formal rules that required no discretion or judgment, traits which were becoming increasingly suspect. Expertise was becoming synonymous with objectivity and formal rules. These works delved into the complex relations between knowledge and trust but also showed that knowledge or reason alone could not fully account for trust. People, institutions, and ideals continued to play a role in what was deemed trustworthy. It was the belief in the objectivity or neutrality of machines, numbers, and algorithms that supported their growing power in society.

The OBAR system was touted in public presentations as an objective, judgment-proof system. The turn to full-text and the promise of no intermediation between lawyers and legal "data" turned trust into a nonissue. Without humans in the mix, relying on the system seemed to require no trust at all. Thus, cultivating trust in the system in the early OBAR days was not about proving that the specific system was trustworthy or reliable. Instead, it was about adopting and trusting a new form of inquiry: trusting that if a user could learn and follow the necessary protocol, her interaction with the computer would produce the desired results. Interestingly, this was not a matter of trust in code alone but in a socio-technical process where users had to adapt their habits consciously. This was a matter of trusting the new logic of "search," not OBAR's consoles or code.

I use the "Koykka Affair," an argument over whether the OBAR system deserved its users' confidence, to illuminate the competing approaches to verification, accuracy, and trust in the new system. The controversy over Koykka's findings revealed that verifying the system's operation was not only hard to do in practice (because of the differences in capabilities between

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[644] Giddens, *The Consequences of Modernity*; Ted Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1995*)*; Donald MacKenzie, *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance* (Cambridge: MIT Press, 1990); Donald MacKenzie, *Mechanizing Proof: Computing, Risk, and Trust* (Cambridge: MIT Press, 2004); Harry Collins, *Artificial Experts: Social Knowledge and Intelligent Machines* (Cambridge: MIT Press, 1990).

people and computers) but was also nearly impossible to do in principle. The text in the machine was not, and could not, be identical to the text in books, and one could not rely on one to test the other. On both sides of the OBAR system, users and developers used religious terms to describe users' attitudes toward the system. Despite the early focus on objectivity, trust could not be attained by reason alone. Since users could not verify the system themselves, confidence in the system was a matter of joining the "tribe" of computer users, backed up by traditional trust mechanisms like expertise and formal institutions.

The Computer in the Law Firm

The first computers entered law firms from afar, through a communication console. Attorneys, clerks, and secretaries were to believe that on the other end of these typewriter-like machines was a computer, and it was its responses that were recorded on the continuous roll of paper that the console spat out. These communication consoles did not appear in offices overnight. The installation of technical equipment followed a long process of introduction and initiation. First, there was a demonstration, a curated interaction with the communication console. Then, a contract had to be signed, the necessary equipment ordered, and a training session organized. How was the belief in the computer, which remained out of sight and had to be imagined, cultivated by the developers? How did developers think about what held sway or could convince customers to trust the system's efficacy?

The Risky Business of Demonstrations

Demonstrating the system's efficacy and feasibility was inseparable from its development. In May 1968, as the conversion of the initial 50 volumes of court reporters was still underway, James F. Preston wrote to Willard R. Richey, then OBAR's director, about the necessity of developing a demonstration of the system.[645] The demonstration was to capture the process of using the system in slides, from a lawyer formulating a legal question to him receiving the printouts of the relevant cases. Preston clarified that "pictures of the computers" would mean

[645] James F. Preston, Jr., to Williard R. Richey, May 14, 1968. C Series, Folder C2A, OBAR papers.

little to lawyers. Instead, the demonstration should be composed of a series of images that illustrate the process: a lawyer posing a legal question, a phone consultation meant to transform the question for the computer, typing the text on the console, the console's reply, and a final image of either the printer in Dayton, Ohio, printing the relevant cases or a secretary ("girl") Xeroxing the cases at the legal center.[646]

Preston's approach was to focus on the process, not merely on the results of automated legal research. A printout of the results or pictures of the computer alone could not convince lawyers of anything. Lawyers had a particular schema for how legal research was done. Preston wanted to help them imagine an alternative. He broke down the process of using the computer into small, easy-to-understand steps. He reasoned that lawyers would be most impressed with a system that they could imagine themselves using, a system that was at once useful and feasible.

A few days before he wrote the letter to Richey, Preston returned from Toledo, where the 88th Annual Meeting of the Ohio State Bar Association was held.[647] These were critical months for OBAR. With the costs of the initial conversion mounting and OBAR's efforts to secure more funds through the sale of debenture bonds, the meeting was vital for garnering the attention of bar members. Preston reported that the attorneys were most impressed by OBAR operating projections, which he secured at the very last minute.[648] Preston insisted that the demonstration was not a "sales operation." He directed Richey to steer clear of images of the computer and focus instead on financial statements, annual reports, budget and operating projections, and a statement from the Air Force about their reliance on the system. Images alone would not persuade lawyers. Instead, financial documents would support the image of a well-thought-out plan, and the additional endorsement by the Air Force would lend the system the necessary credibility.

Preston recognized the potential and the risk of demonstrations. "Every time we have a demonstration that is not the best we can possibly give we hurt ourselves," he wrote. From

[646] At the time of correspondence, OBAR's standard console was an IBM 1050 (often referred to as "1050").
[647] Ad, *The Ohio Bar: Ohio State Bar Association Reports* 41, no. 11 (March 11, 1968): 325.
[648] Preston, Jr., to Richey, May 14, 1968.

personal experience, he knew how powerful a successful demonstration could be. John Horty's demonstration at the OSBA in 1965 convinced him and Harrington to pursue the project in the first place. A successful demonstration also convinced Harrington to sign a contract with Data Corporation in 1967. For skeptics and enthusiasts alike, demonstrations held particular sway. If the demonstration was successful, it was effective in cultivating both interest and belief. There was a risk, however. The demonstrations' success could never be guaranteed.

As the technical capabilities of the system changed, so did the methods of demonstration. OBAR's preference quickly shifted from slide presentations to "live" demonstrations, where a communication console had a direct and "live" connection to the mainframe computer. At first, the only way to see a demonstration was to visit Data Corporation's headquarters in Dayton, where the mainframe computer was located. When, in early February 1969, Jim Preston and Bill Harrington were courting Paul W. Brown, Ohio's Attorney General, they encouraged him and his staff to watch a demonstration at the Dayton headquarters.[649] Time-sharing had just become available, and remote consoles, placed in attorneys' offices, were still in the future. The two senior staff members from the Attorney General's office who visited Dayton and watched the system in operation were sold. The first operational remote console was installed in the Attorney General's office that summer.[650] With a few local demonstrations under their belt, OBAR began planning a public demonstration for the press in New York City in March 1969.[651] The demonstration, held at the Overseas Press Club in midtown Manhattan, was aimed to attract the attention of the national press (which it did), to encourage attorneys with the New York bar to invest money in the system's development, and to position the system as the most advanced in operation at the time.

Although the demonstrations were "live," in that they were conducted with a real connection to the mainframe computer, they were carefully polished simulations, not ad hoc

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[649] William G. Harrington to Paul W. Brown, February 5, 1969, C Series, Folder C3, OBAR papers.
[650] Shelbey V. Hutchins to William Harrington, February 10, 1969, C Series, Folder C3, OBAR papers; William G. Harrington to Paul W. Brown, July 15, 1969, C Series, Folder C3B, OBAR papers.; Press Release, August 22, 1969, P Series, Folder P14, OBAR papers.
[651] "Information-Retrieval System Being Offered by Mead, Paper Firm," *Wall Street Journal*, March 21, 1969; William G. Harrington to Ralph Welch, February 21, 1969, C Series, Folder C3, OBAR papers; William G. Dakin to Frank J. Troy, March 6, 1969, C Series, Folder C3, OBAR papers.

experiments. Much like the 17th-century well-rehearsed scientific experiments at the Royal Society in London, these were dramatic reenactments with a known result.[652] OBAR demonstrations used the same question – a question concerning Ohio state sales and use tax in promotional programs that had occupied the courts for a decade.[653] OBAR's staff first explained the issue and stated the legal question. Then, they proceeded to demonstrate how a legal question should be transformed into computer syntax, trading a complete sentence for a series of keywords and connectors.[654] Most importantly, the demonstration highlighted the dialogue with the computer. The initial search request was modified twice to narrow down the number of results from 131 to 14 and then to 10. During initial tests, the time to run this query (including its modifications) was two and a half minutes, but this was not representative of actual demonstrations, which were run remotely and included a significantly larger database.[655]

"Live" demonstrations were not without risk. First, there was the matter of hauling and installing the equipment. Demonstrations required, at a minimum, a communication console and an operating telephone line.[656] Later ones included a printer and/or CRT color monitors. The communication console, by then a Teletype machine, was a hefty piece of equipment. Moving it, along with a printer and additional equipment, required a large vehicle, a station wagon, or a truck.[657] Carrying the heavy equipment up the stairs required help and had to be coordinated in advance.[658] Second, establishing a connection to the main computer required further tinkering. There was the matter of installing the appropriate phone line and ensuring that the connection via

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[652] Wally Smith, "Theatre of Use: A Frame Analysis of Information Technology Demonstrations," *Social Studies of Science* 39, no. 3 (2009): 449-480.
[653] In April 1967, Standard Oil Company argued that it was exempt from sales tax on materials purchased and used in promotional programs and giveaways because they were "directly used or consumed in retail sales." *Standard Oil Co. v. Donahue*, 10 Ohio St. 2d 134, 1967 (Supreme Court of Ohio April 19, 1967); Frank J. Troy, "Ohio Bar Automated Research - A Practical System of Computerized Legal Research," *Jurimetrics Journal* 10, no. 2 (December 1969): 62-69; William G. Harrington to William F. Gorog, November 15, 1969. C Series, Folder C3D, OBAR papers.
[654] Troy, "Ohio Bar Automated Research," 64-67.
[655] Troy, "Ohio Bar Automated Research," 67.
[656] "District 17 to Meet February 14 in Marietta," *The Ohio Bar: Ohio State Bar Association Reports* 43 (1970): 122.
[657] Memorandum by L. A. Weibel to P. J. Vann, July 18, 1969, N Series, Folder N1, OBAR papers; Charles P. Bourne and Trudi B. Hahn, *A History of Online Information Services: 1963–1976* (Cambridge: MIT Press, 2003), 250.
[658] "OBAR demonstration plan" for The University of Cincinnati Law School, April 30, 1970. O Series, O6, OBAR papers.

the remote console was working correctly. And finally, even with the best preparation and advance setup – the demonstration could fail on the day of.

Although the demonstrations included the same series of steps and processing the same question, some did not go as planned. At a November 1969 gathering of judges, the demonstration failed.[659] Although personnel from Data Corporation were on site to troubleshoot the technical aspects of the demonstration, the computer did not comply. Harrington, who was running the demonstration, complained that he spent more time apologizing and explaining than presenting the system to the judges. Using the same practice question they used for the past year produced no response. Harrington suspected that the problem was that only a partial database (going back 60 years instead of 100) was mounted or that a technical issue – long processing time – was to blame. Mounting a partial database "for demonstration purposes" was not a problem, he clarified, as long as the demonstrators knew about it in advance. To his embarrassment, he reported that some of the judges knew the cases well enough to wonder why some old cases were missing from the results.[660]

It was clear to OBAR's and Data Corporation's staff that the demonstrations were cultivating the belief and trust of attorneys, and they treated them accordingly. Mark Bayer, a Data Corporation employee who referred to demonstrations as "missionary work," described how he mounted a Model 25 Teletype along with an acoustic modem and an acoustic coupler unit onto a piece of plywood (instead of the customary desk-like support) so it could fit into the back of a station wagon.[661] Bayer also revealed that during demonstrations, Data Corporation disconnected users and stopped programming and other activities that could be put on hold to run an "almost single-user system" that would respond in "reasonable time."[662] To display a response time that would wow the observers, demonstrators relied on a series of rehearsed steps and the cooperation of the engineers "behind the scenes" at the other end of the telephone line. Demonstration times were thus shared with the engineers to guarantee an excellent

[659] William G. Harrington to William F. Gorog, November 15, 1969, C Series, Folder C3D, OBAR papers.
[660] Harrington to Gorog, November 15, 1969.
[661] Bourne and Hahn, *A History of Online Information Services,* 250.
[662] Bourne and Hahn, 250.

performance.[663] In an internal memo from September 1969, Data Corporation admitted that only one remote terminal could communicate with the computer at a time and anticipated "busy lines" with the parallel operation of terminals for customers, demonstrations, and training sessions.[664]

No gathering was too small or too far for a demonstration. In 1969, OBAR reported demonstrations in New York, Los Angeles, Missouri, and Indiana.[665] Demonstrations were also held at local bar association gatherings in Chillicothe (October 18, 1969),[666] Van Wert (November 15, 1969),[667] Marietta (February 14, 1970),[668] Newark (March 5, 1970),[669] and Steubenville (March 14, 1970)[670], at judges associations meetings, local bar officers conferences, county libraries, and law schools.[671] The ambitious goal was to "have demonstrations at all District Meetings of the BAR Associations and at other meetings where groups of other attorneys are assembled," wrote Harrington to a lawyer who expressed interest in OBAR in November 1969. OBAR's staff was well-rehearsed after three consecutive, full-day demonstrations at the 1969 ABA annual meeting over the summer.[672]

From Demonstration to Installation

[663] At the 1969 ABA annual meeting in Dallas, where stakes were particularly high for the demonstration, a memo with detailed dates and times was sent to Data Corporation staff specifying that "The working data base available at that time for the Ohio legal community will be used for demonstration in Dallas." Memorandum by L. A. Weibel to P. J. Vann dated July 18, 1969, N series, Folder N1, OBAR papers.
[664] Memorandum by L. A. Weibel to R. W. Halliday, September 2, 1969. C Series, Folder C3C, OBAR papers.
[665] "OBAR - A Report," *The Ohio Bar: Ohio State Bar Association Reports* 42, no. 36 (September 22, 1969): 1149-1151, 1151.
[666] "District Eight to Meet October 18 in Chillicothe," *The Ohio Bar: Ohio State Bar Association Reports* 42, no. 38 (October 6, 1969): 1217.
[667] "District Three to Meet November 15 in Van Wert," *The Ohio Bar: Ohio State Bar Association Reports* 42, no. 43 (November 10, 1969): 1399.
[668] "District 17 to Meet February 14 in Marietta," *The Ohio Bar: Ohio State Bar Association Reports* 43, no. 5 (February 2, 1970).
[669] "District Nine to Meet March 5 in Newark," *The Ohio Bar: Ohio State Bar Association Reports* 43, issue 7 (February 16, 1970): 222.
[670] "District 15 to Meet March 14 at Steubenville," *The Ohio Bar: Ohio State Bar Association Reports* 43, no. 9 (March 2, 1970): 271.
[671] "'Challenge' is the Theme of 1969 Local Bar Officer Conference October 3", *The Ohio Bar: Ohio State Bar Association Reports* 42, no. 34 (September 8, 1969): 1099; "Ohio Common Please Judges Association Elects Officers for 1970," *The Ohio Bar: Ohio State Bar Association Reports* 42, no. 49 (December 22, 1969): 1612.
[672] The 1969 ABA annual meeting demonstration is covered in excursus 1.

By the end of October 1969, remote terminals were operating in four offices: the legal center (OBAR's offices) and the Attorney General's office, both in Columbus, Ohio, the law firm Squire, Sanders, and Dempsey in Cleveland, and the Summit County Library in Akron.[673] OBAR's operation was complicated: a small staff was juggling demonstrations, equipment installations, training, and correspondence, which grew as the interest in the system, locally and nationally, grew. The staff also had to keep up with technical developments (Data Corporation was pressing to introduce color monitors), the progress of converting printed Ohio reporters (still ongoing), and the reports to the OSBA members. Nevertheless, OBAR was gaining momentum. A month later, the system had grown to 12 confirmed subscribers with nine remote terminals installed.[674]

In Cleveland, the first law firm to have a remote OBAR console installed was Squire, Sanders, and Dempsey. As the summer of 1969 was coming to a close, James Preston, OBAR's first president and a long-time partner at the firm, arranged for the console to be installed at the firm's office in downtown Cleveland.[675] Located at the colossal Union Commerce Building that dominated the corner of Euclid Avenue and East Ninth Street, Squire, Sanders, and Dempsey's offices occupied the entire 18th floor.[676] With a three-story L-shaped lobby, Corinthian columns, vaulted ceilings, and murals by American painter Jules Guérin, the building was home to over 500 lawyers at the time.[677] Among them were firms such as Jones, Day, Cockley & Reavis; Baker, Hostetler & Patterson; Arter & Hadden; plus 32 solo practitioners and about a hundred attorneys in small law firms.[678] The next law firm to install a console in Cleveland was Arter & Hadden. Arter & Hadden's name was added to a carefully arranged "Customer Development" spreadsheet that Frank Troy prepared in November 1969 for Len Weibel, the marketing manager at Data Corporation in charge of OBAR.[679] As one of the latest additions to the spreadsheet, the

[673] William G. Harrington to Richard J. Thomas, October 27, 1969. C Series, Folder C3D, OBAR papers.
[674] Frank J. Troy to Leonard Weibel, November 26, 1969. O Series, Folder O6, OBAR papers.
[675] "Customer Development Schedule," O Series, Folder O6, OBAR papers; "OBAR sales forecast: September 1, 1969" (attachment to a memorandum by L. A. Weibel to R. W. Halliday, September 2, 1969, C Series, Folder C3C, OBAR papers).
[676] Jim Dubelko, "Union Trust Building," *Cleveland Historical*, https://clevelandhistorical.org/items/show/876; "Huntington Building," Encyclopedia of Cleveland History, Case Western Reserve University, https://case.edu/ech/articles/h/huntington-building.
[677] "Cuyahoga County Legal Population Demographics," O Series, Folder O6, OBAR papers.
[678] "Cuyahoga County Legal Population Demographics."
[679] Frank J. Troy to Leonard Weibel, November 26, 1969, O Series, Folder O6, OBAR papers.

only field with any information about Arter & Hadden was "Close Date," which recorded the day of Arter & Hadden's demonstration – November 10, 1969.[680]

Arter & Hadden migrated its offices to the Union Commerce Building in 1955.[681] The offices housed its 40 partners and almost 40 associates, all men but one, who specialized in corporate litigation, civil law, and probate and tax cases.[682] In the 1970s, Arter & Hadden began its national expansion, first into Columbus, Ohio, and then into Washington, D.C., Dallas, and the West Coast. But, in 1969, as the final details of installing a computer console in their offices were being discussed, Arter & Hadden was still primarily a Cleveland law firm.

Thomas A. Quintrell, a partner at Arter & Hadden, was in touch with William Harrington, OBAR's executive vice president. Quintrell knew "Bill" from the OSBA, where he served on the board of Governors.[683] It was not unusual for partners to serve as the entry point for OBAR.[684] OBAR usually made its way into law firms from the top down through senior partners that attended OSBA events, were involved with its numerous committees, and had the clout to arrange a contract in their respective law firms. Often, it was these partners who provided the initial funding for OBAR through the purchase of debenture bonds.

November 10th, 1969, marked the day of the demonstration for Arter & Hadden.[685] Every installation at a law firm followed the same series of steps: first, a demonstration was given, then a signed contract was exchanged, an order for the equipment was placed, a training session was organized, and finally, the equipment was installed.[686] Urging interested lawyers to arrange a

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[680] Troy to Weibel, November 26, 1969.
[681] "Arter & Hadden," Encyclopedia of Cleveland History, Case Western Reserve University, https://case.edu/ech/articles/a/arter-hadden.
[682] P. J. Holdrieth, "Call report," May 4, 1970, S Series, Folder S8, OBAR papers.
[683] Kathleen M. Dugan and Ashley K. Sprankle, "The History of the Cleveland Law Library 1869-2019" (The Cleveland Law Library Association, 2020), 72.
[684] A sales forecast from 1969 lists a partner as a key contact for every law firm on the list. Frank J. Troy to Leonard Weibel, November 26, 1969, O Series, Folder O6, OBAR papers. For the installation at the Attorney General's office earlier that year, OBAR wrote to the Attorney General directly and only after his approval continued to finalize the details with his chief counsel. As time went on and the technology was "domesticated," the point person for OBAR in the law firm migrated from senior partners to office managers and associates. See: Walter A. Bates to Frank J. Troy, June 23, 1970. S Series, Folder S8, OBAR papers.
[685] Patrick J. Holdreith to William G. Harrington, November 17, 1969. C Series, Folder C3D, OBAR papers.
[686] See Frank J. Troy to William W. Wehr, November 3, 1969. C Series, C3D, OBAR papers.

demonstration, OBAR's staff wrote to them that "it is difficult if not impossible to adequately describe the functioning of the system in a letter."[687] Demonstrations usually took place at the law firm's offices. From scientific experiments to IT demonstrations in the 2000s, demonstrators traveled with their equipment. Doing so was necessary to meet their audience on their "home turf," which strengthened the connection between the demonstration and the practice it was simulating.[688] For OBAR, holding the demonstration in the law firm was essential for cultivating the imagined connection between the communication console, an object that resembled a typewriter, and the mysterious computer on the other side. A demonstration at the Dayton headquarters, where the mainframe computer was located, could not simulate the experience of what it would be like to have a console as near as their office library, the system's main draw.

In December 1969, less than a month after the demonstration, Quintrell sent Harrington two signed contracts.[689] Harrington replied promptly to Quintrell's letter. He explained, however, that it would be a couple of months before the console was operating in Arter & Hadden's offices.[690] The phone company, Ohio Bell, would need up to six weeks to install the required phone line. There were additional considerations. Harrington explained that OBAR and Data Corporation, the computer company that built and operated the OBAR system, had limited personnel to support customers as fully as they wished.

Beneath the unified veneer Harrington displayed in his letter, the tension between OBAR and Data Corporation rose. As 1969 drew to a close, Data Corporation pushed to install more terminals, setting an almost imaginary quota of 30 installations by the end of the year.[691] Harrington and others at OBAR thought this "hurried effort to place as many consoles as possible in the shortest possible time" was unwise.[692] In a joint meeting in November 1969, OBAR and Data Corporation agreed to stop installing consoles for sixty days.[693] While OBAR thought the problem that merited a temporary moratorium on console placement was the

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[687] See, for example, Frank J. Troy to Alan M. Wolk, September 26, 1969, C Series, C3C, OBAR papers.
[688] Wally Smith, "Theatre of Use: A Frame Analysis of Information Technology Demonstrations." *Social Studies of Science* 39, no. 3 (2009): 449-480.
[689] Thomas A. Quintrell to William G. Harrington, December 5, 1969, S Series, Folder S8, OBAR papers.
[690] William G. Harrington to Thomas A. Quintrell, December 8, 1969, S Series, Folder S8, OBAR papers.
[691] Memorandum by L. A. Weibel to P. J. Wann, November 4, 1969, C Series, Folder C3D, OBAR papers.
[692] William G. Harrington to Jerome Rubin, August 19, 1970, C Series, Folder C5, OBAR papers.
[693] Harrington to Rubin, August 19, 1970.

system's disappointing performance, Data Corporation was more troubled by the lack of consistent "post-sale support." Harrington complained that the primary problem was the "continuing inability of the computer to service as many customers simultaneously as was promised."[694] Despite Data Corporation's promise to serve 250 terminals in Ohio, the system had trouble handling the few remote terminals installed.

Data Corporation saw things differently. Data Corporation's memo from that time focused on the ongoing problems with terminal support.[695] It was clear to Data Corporation that support in the first days after installation was critical "so that his very fragile faith in the system might be constantly reinforced."[696] However, there was no clarity on who should provide this support, and, in the case of OBAR, there was minimal staff for that purpose. Data Corporation was responsible for technical support ("areas wherein search framing is not an issue"). OBAR was in charge of Columbus area customers and providing substantive support. OBAR staff was extremely limited, however, and fully engaged in demonstrations, debenture sale drives, and training sessions.[697] Slowly, however, support began to migrate from OBAR to Data Corporation.

At the end of 1969, the differences in approach between OBAR and Data Corporation were more pronounced. Unlike OBAR's staff, who approached OBAR as a service to the profession, Data Corporation approached it like a product.

Operating the Console: Gender, Technology, and Office Work

In December 1969, when Quintrell sent Harrington the signed contract for an OBAR subscription, he also inquired about training sessions.[698] Quintrell wanted to send the firm librarian, Joseph Zolich, several lawyers, and several secretaries to attend the training. Before

[694] Harrington to Rubin, August 19, 1970.
[695] Memorandum by L. A. Weibel to P. J. Wann, November 4, 1969, C Series, Folder C3D, OBAR papers.
[696] Memorandum by L. A. Weibel to P. J. Wann, November 4, 1969.
[697] OBAR's planned budget for 1970 included three staff members (an executive secretary, an assistant, and a bookkeeper) as well as payment for part-time services. "Minutes of Board of Trustees Meeting of the Ohio Bar Automated Research Corp," December 5, 1969, M Series, Folder M4, OBAR papers.
[698] Thomas A. Quintrell to William G. Harrington, December 5, 1969, S Series, Folder S8, OBAR papers.

signing the contract, Quintrell edited the terms to indicate that instruction would be provided to "several lawyers and several secretaries" rather than the original "one lawyer and one secretary."[699] OBAR's practice was to schedule a training session one or two weeks before the installation of the console.[700] This was both a matter of securing and installing the technical equipment and an initiation into the tribe of computer users. OBAR's personnel made sure that technical equipment followed a training session and made it a top priority to support users during the first days after an installation.[701]

Quintrell's request that the secretaries and librarian attend the training session was in line with OBAR's practice and other law firms' conduct. Although OBAR was marketed for lawyers and its developers promoted "direct use" by lawyers, it was OBAR's usual practice to train lawyers, librarians, and secretaries to use the OBAR system.[702] Still, there were differences. OBAR insisted that lawyers were trained in "search framing technique" and secretaries in computer console operation.[703] Intellectual skills were once again separated from mechanical ones and mapped onto gender and class distinctions between lawyers and their secretaries.

The distinction between mechanical and substantive skills had roots in legal practice long before the computer was introduced. In 1951, Francis Price, a prominent Santa Barbara lawyer, reported that his colleagues often considered a stenographer "a more or less mechanical adjunct to a typewriter."[704] Technology and gender have been intertwined in clerical work since the early 1900s. As male clerks were being replaced with female secretaries, technologies such as typewriters, telephones, and filing cabinets entered offices.[705] By the 1930s, clerical work was

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[699] "Customer Contract," Ohio Bar Automated Research and Arter & Hadden, December 8th, 1969, S Series, Folder S8, OBAR papers.
[700] Frank J. Troy to William W. Wehr, November 3, 1969. C Series, Folder C3D, OBAR papers.
[701] William G. Harrington to Thomas A. Quintrell, December 8, 1969, S Series, Folder S8, OBAR papers; "Customer Contract," Ohio Bar Automated Research and Arter & Hadden, December 8th, 1969.
[702] William G. Harrington to Paul W. Brown, July 15, 1969, C Series, Folder C3B, OBAR papers; William G. Harrington to Marcus E. McCallister, February 16, 1970, C Series, Folder C4, OBAR papers; Robert W. Halliday to William G. Harrington, November 6, 1969. C Series, Folder C3D, OBAR papers.
[703] Harrington to Brown, July 15, 1969.
[704] Francis Price, *Personal and Business Conduct in the Practice of Law: Law Office Management* (Philadelphia: Committee on Continuing Legal Education of the American Law Institute, 1952), 58-59.
[705] Sharon Hartman Strom, "'Light Manufacturing': The Feminization of American Office Work, 1900-1930." *Industrial and Labor Relations Review* 43, no. 1 (1989): 53-71; Margery W. Davies, *Woman's place is at the typewriter: Office work and office workers, 1870-1930* (Philadelphia: Temple University Press, 1982), 4-6; Rosemary Pringle, *Secretaries Talk: Sexuality, Power, and Work* (London: Verso, 1988), 174.

considered women's work, and office technologies were considered appropriate only for women.[706] The feminization of clerical work resulted in lower wages, less autonomy, and changes in types of work and how it was valued. Secretaries were subdivided into stenographers and secretaries or, later, into personal and pool secretaries, creating an internal hierarchy based on secretaries' command of cognitive, social, and technological skills.[707] Debates on the proper treatment or organization of office secretaries were debates about the extent to which clerical work required skill and expertise.

The 1970s were a turning point for legal secretaries. Even the situation of personal secretaries, once the elite, was beginning to worsen. The expansion of law firms led to the advent of personnel departments, which gradually began managing work within law firms. Law offices were becoming more specialized and bureaucratized.[708] Personal legal secretaries were no longer "generalists," as many of their tasks were taken up by other law firm staff, particularly legal assistants.[709] Until the 1970s, secretaries prepared "boilerplate" legal documents by consulting form books.[710] This was no longer the case in the specialized law office. Secretaries were being deskilled and their prestige diminished.

For OBAR's staff, most of whom were lawyers themselves, secretaries were synonymous with "typing." They were qualified to assist with console operation but not with substantial legal research. In libraries, where many initial consoles were placed, lawyers relied on the help of librarians and secretaries to operate the console. At the end of October 1969, William G. Harrington wrote to Hugh L. Nichols, Law librarian at Clermont County Law Library.[711] Although the Clermont County Law Library had been interested in OBAR for quite some time, they were still baffled as to how to set up a system that would correctly identify (and bill) users at the remote console. Harrington wished to clarify that their proposed setup, in which the

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[706] Pringle, *Secretaries Talk,* 174; Davies, *Woman's place is at the typewriter*, 4-6.
[707] Davies, *Woman's place is at the typewriter*, 129-162;
[708] Robert L. Nelson, *Partners with Power: The Social Transformation of the Large Law Firm* (Berkeley: University of California Press, 1988); Mary Murphree, "Rationalization and Satisfaction in Clerical Work: A case study of Wall Street legal secretaries" (PhD Diss., University of Michigan, 1981); Marc Galanter and Thomas Palau, *Tournament of Lawyers: The Transformation of the Big Law Firm* (Chicago: The University of Chicago Press, 1991).
[709] This period also marked the formation of paralegals as a distinct occupational group. See the discussion in Chapter 2.
[710] Murphree, "Rationalization and Satisfaction in Clerical Work," 149-150.
[711] William G. Harrington to Hugh L. Nichols, October 31, 1969. C Series, Folder C3D, OBAR papers.

console would be accessible 24 hours a day without a librarian present, was unacceptable. In similar cases, wrote Harrington, the console was placed in a judge's or clerk's office so its use would be supervised. It was not merely a matter of supervision but also of support. Harrington explained that secretaries in these offices could operate the consoles (or do "the typing," in his words) for lawyers.

The console operation was not a complex matter in the eyes of OBAR staff. "Almost any one could learn to operate it in a relative short period of time," wrote Frank Troy to a librarian who inquired about OBAR.[712] In his eyes, the barrier to operating the console was not skill but habit. Computer consoles resembled typewriters, tools that secretaries, not lawyers, used. Lawyers protested that they knew neither how to operate a computer nor to type.[713] OBAR's insistence on training sessions aimed to demystify the machine's workings and make lawyers feel more comfortable around it. But, OBAR also knew that, at least at first, it would be secretaries who would operate the console.

As the number of ordered consoles grew at the end of 1969, so did the number of training sessions offered. Soon there was a training session at least once a month, sometimes a couple of times a month.[714] Training sessions were full days that ran from 9:00 am to 4:30 pm at the Ohio Legal Center in Columbus.[715] They included instructions on the "general theory of computer logic" in the OBAR system, search framing theory and techniques, and operation of the communication console.[716] Where possible, the training included a hands-on demonstration.[717]

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[712] Frank J. Troy to Denise B. Kelley, April 15, 1969. C Series, Folder C3A, OBAR papers.
[713] William G. Harrington, "A Brief History of Computer-Assisted Legal Research." *Law Library Journal* 77, no. 3 (1984-1985): 552.
[714] Robert W. Halliday to William G. Harrington, November 6, 1969, C Series, Folder C3D, OBAR papers; Wesley Gilmer, Jr., to Leonard A. Weibel, November 26, 1969, C Series, Folder C3D, OBAR papers.
[715] Frank J. Troy to William W. Wehr, November 3, 1969. C Series, Folder C3D, OBAR papers. OBAR could not afford to run training sessions that were longer than a day at this time. The competition with John Horty's system was fierce. Reporting from the Dallas 1969 ABA annual meeting, Holdreith told to his superior, Len Weibel that when Horty was asked on a TV show how long it takes to learn how to use the system, he responded that it takes one day and that he already trained 1000 men in this way. Memorandum by P. J. Holdreith to L. A. Weibel, August 15, 1969, C Series, C3C, OBAR papers.
[716] Frank J. Troy to Rudolph Janata, November 3, 1969, C Series, Folder C3D, OBAR papers; Frank J. Troy to Renyon D. Love, August 5, 1969. C Series, Folder C3C, OBAR papers.
[717] Frank J. Troy to Rudolph Janata, November 3, 1969. C Series, Folder C3D, OBAR paper; "Call Report," September 14, 1970, D Series, Folder D28, OBAR papers.

Lawyers, secretaries, and librarians who went through the training also received a written manual.[718]

Although OBAR's staff assured attorneys that search framing "is not difficult" and learning to operate the system was a matter of a day at the most, many found the training overwhelming.[719] Many attendees had to learn the mechanics of operating a Teletype for the first time. Then there was the matter of computer syntax – using the connectors and operators (as well as figuring out what "Boolean logic" was). Finally, "search framing" was a matter of adjusting a thought process honed by years of training and practice. OBAR squeezed all these aspects into one training day, with some lawyers commenting that it reflected a gross underestimation of the amount of commitment and time needed to learn how to use the system.[720] The instruction manuals were considered largely useless, with one attorney commenting that they were "usually out-of-date on the day they were printed."[721] And most acutely, almost everyone agreed that the best way to learn to use the system was with actual research problems and that general training alone could not qualify anyone to use the system effectively.[722]

OBAR's staff knew that using OBAR effectively required time and could not be fully achieved in one session, no matter how good the training was. Lawyers needed to use the system frequently, on real questions, to master it. When one lawyer protested the cost of these training sessions ($300), Harrington explained that to use the system effectively, the attorney must commit his time, thought, "and a small amount of money."[723] Training did not mean learning a series of codes from a manual, explained Harrington. Rather, it was "a matter of learning a

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[718] William G. Harrington to Robert L. Abrahamson, February 23, 1970. C Series, Folder C4, OBAR papers.
[719] Troy to Love, August 5, 1969. In interviews conducted by the A. D. Little consulting firm in mid-1971, lawyers commented that while the training session seemed clear, they had trouble remembering how to operate the system and that "search framing" training was either unhelpful or counter to how they understood legal research. Arthur D. Little, Inc., "Working Memo," July 6, 1971, D Series, Folder D1A, OBAR papers.
[720] Arthur D. Little, Inc., "Working Memo," July 6, 1971.
[721] Richard M. McGonigal, "Computerized Legal Research: One Law Firm's User Experience," 1973, P Series, Folder P27, OBAR papers, 5. In interviews conducted by the A. D. Little consulting firm in mid-1971, one user commented that the instructions were poor, "very hard to understand and follow." Arthur D. Little, Inc., "Working Memo," July 6, 1971.
[722] Mary Kay Kane, "Synthesis of Report on Computerized Legal Research Experiments," Report to Mead Data Central, Inc. APPENDIX VI. D Series, Folder D6, OBAR papers; McGonigal, "Computerized Legal Research: One Law Firm's User Experience," 1973.
[723] William G. Harrington to Robert L. Abrahamson, February 23, 1970, C Series, Folder C4, OBAR papers.

technique." Harrington must have felt aggrieved by this specific complaint since he commented that no prospective user had raised this issue before and that he is "inclined to suspect that an attorney who finds the investment of $300 a sticking point likely does not feel a sufficient desire for the system to involve himself in it."[724]

OBAR's staff operated under a series of constraints. On the one hand, OBAR's staff knew that effective use of the system required training and continuous support. On the other hand, they had a hard time convincing associates (not to mention partners) to make time to learn how to operate the system when they already had systems in place for legal research. Pressed for time, attorneys were reluctant to devote even one day to the matter. Questionnaires, interviews, and meetings about OBAR were also frowned upon, particularly when they were conducted by Data Corporation's staff and not by OBAR.[725] While some sources, particularly journal publications and demonstrations, stressed how easy it was to learn to "talk with the computer," other sources acknowledged that training required time and effort.

The conflicting messages about learning to use the system were further compounded by the public insistence on "direct interaction" with the computer. For all outward appearances, OBAR's staff maintained that the best results came from direct use by attorneys themselves. That might have been true, but attorneys had a hard time using the consoles directly, and law firms that had consoles devised different schemes to utilize them despite attorneys' reluctance. At Squire, Sanders & Dempsey, the consoles gathered dust when they insisted on "direct interface."[726] Attorneys who dared to use the system encountered technical difficulties, keyboard errors, and search framing problems, which made them give up on the system. The firm initially tried to use paralegals to remedy the problem by providing support to attorneys, but the pilot failed.[727] Eventually, in 1971, Robert Asman, then OBAR's president, suggested that Squire train second- and third-year law students to assist with the console's operation, a strategy that proved

[724] Harrington to Abrahamson, February 23, 1970.
[725] William G. Harrington to Leonard A. Weibel, February 16, 1970.C Series, Folder C4, OBAR papers; Memorandum by R. M. McGonigal to James Preston and Robert Asman, March 5, 1971, C Series, Folder C6B, OBAR papers; Memorandum by P. J. Holdreith to L. A. Weibel et al., July 15, 1971, OBAR papers, D28; Robert Asman, Talk to the First National Conference on Automated Law Research, March 17, 1972, P Series, Folder P19, OBAR papers.
[726] McGonigal, "Computerized Legal Research: One Law Firm's User Experience," 5.
[727] McGonigal, "Computerized Legal Research: One Law Firm's User Experience," 5.

successful. Even with the brilliant success of the law student program, some attorneys preferred to go through the librarian.[728] Richard M. McGonigal, who detailed the practice at Squire, was well aware of the idealization of direct use. He rejected it by commenting that "our experience clearly indicates to the contrary."[729]

In line with other law firms, Squire, Sanders & Dempsey's experience revealed that lawyers' main problem was not merely mechanical, i.e., that they were uncomfortable with the console operation. Rather, secretaries, students, and librarians filled a vital function that was long a part of any legal research process. They were capable of dialogue. Back in 1951, Francis Price had already observed that even a typist did more than just typing: "when a man dictates to a competent stenographer, he can discuss his ideas and give suggestions of the record which produce cooperation not be accorded by the machine."[730] Despite OBAR's promise of an interactive dialogue with the computer, lawyers still preferred to talk to people. Mechanical operation and substantive legal research continued to be entangled.

Noisy Teletypes, Remote Computers

According to the contract signed between Arter & Hadden and OBAR on December 8th, 1969, the customer was responsible for installing and maintaining the communication console.[731] Arter & Hadden was to contact the supplier of the communications console and the telephone company to install the communication console and the necessary telephone line. The contract left the exact model and manufacturer of the communication console open. It merely specified that it should be one "designated by OBAR and Data Corporation as suitable for communication with the computer."[732] Harrington warned that it would take at least six weeks before the phone line was installed.[733]

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[728] Richard M. McGonigal described how these attorneys filled a search request form, forwarded it to the firm librarian, and either asked for the printed results of the computerized search or to be called "when the law student [was] getting close." McGonigal, "Computerized Legal Research: One Law Firm's User Experience," 5.
[729] McGonigal, "Computerized Legal Research: One Law Firm's User Experience," 5.
[730] Price, *Personal and Business Conduct in the Practice of Law*, 62.
[731] "Customer Contract," Ohio Bar Automated Research and Arter & Hadden, December 8th, 1969, S Series, Folder S8, OBAR papers.
[732] "Customer Contract," Ohio Bar Automated Research and Arter & Hadden, December 8th, 1969.
[733] William G. Harrington to Thomas A. Quintrell, December 8, 1969, S Series, Folder S8, OBAR papers.

In the meantime, Arter & Hadden was to secure a communication console. Although the contract specified some freedom in choosing a console, the early consoles were only of one kind: teletype (or "TTY").[734] The teletypes that OBAR's subscribers used were teletypes with a capital T, manufactured (and trademarked) by the Teletype Corporation, owned by the American Telephone and Telegraph Company (AT&T).[735] Originally called "printing telegraphs," these typewriter-like machines were developed in the 19th century.[736] Unlike the telegraph, however, they featured a keyboard, initially composed of piano keys and later QWERTY-style typewriter keys.[737] The keyboard was no small detail. It meant that teletype operation did not require knowledge of Morse Code; the operator could simply communicate in English using the Latin alphabet.[738]

OBAR recommended the Teletype Model 33 terminal (or the "ASR 33" as it was sometimes called), a popular choice for early computer developers.[739] Introduced in 1963, it was the first teletype to employ the ASCII character encoding method, which arrived on the scene the same year that the ASR 33 went into commercial use.[740] ASCII offered a standard for electronic communication that made possible the storage and transmission of electronic signals across various computer types (and brands). ASR 33 was comprised of a keyboard (bottom center), a

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[734] William G. Harrington to Richard J. Thomas, October 27, 1969, C Series, Folder C3D, OBAR papers; Frank J. Troy to Rudolph Janata, October 17, 1969, C Series, Folder C3D, OBAR papers.

[735] The Teletype Corporation grew out of Morkrum Company, which, in 1910, designed and installed its first "Printing Telegraph." By 1921, the company inaugurated Model 11 under the name "Teletype" and subsequently changed its name to "Teletype Corporation" (in 1928). Two years later, it was purchased by the American Telephone and Telegraph Company and turned into a subsidiary of the Western Electric Company.
Teletype Corporation, "The Teletype Story," 1958, Sam Hallas Telecomms Documents Online Repository. Accessible online at: http://www.samhallas.co.uk/repository/telegraph/teletype_story.pdf.

[736] James Purdon, "Teletype," in *Extinct: A Compendium of Obsolete Objects*, ed. Barbara Penner, Adrian Forty, Olivia Horsfall Turner, and Miranda Critchley (London: Reaktion Books, 2021): 317-319.

[737] Early teletypes (mid -1800s) featured a piano-style keyboard. In the late 1890s, these keyboards were replaced by typewriter-like keyboards. Purdon, "Teletype," 317.

[738] Teletype Corporation, "What is Teletype?," Ad, 1957. https://upload.wikimedia.org/wikipedia/commons/0/0a/What-is-teletype.jpg.

[739] OBAR correspondence from the summer of 1969 quotes an $81 charge for "Monthly rental TS-1 ARS33 Teletypewriter with data service," Frank J. Troy to Danny P. Johnson, August 20, 1969, C Series, Folder C3C, OBAR papers; Frank da Cruz, "Teletype Machines," Columbia University Computing History, http://www.columbia.edu/cu/computinghistory/teletype/index.html; Benj Edwards, "What are Teletypes, and Why Were They Used with Computers?," How-To Geek, May 17, 2021, https://www.howtogeek.com/727213/what-are-teletypes-and-why-were-they-used-with-computers/ .

[740] ASCII replaced the earlier International Telegraph Alphabet No. 2 (ITA2) code, introduced in 1942 by the International Telegraph and Telephone Consultative Committee (CCITT, in the French acronym, today the ITU-T).

printer with a continuous roll of paper (upper center), a tape reader unit and a punch (left side), and a Call Control Unit (or CCU) (right side).[741] The CCU varied. Early manuals for OBAR mentioned three varieties of teletypes: teletype with console dial, teletype with separate telephone, and teletype with coupler.[742]

To operate the console, the operator was to dial the MDC Computer, either by using the dial, using the attached phone, or by placing a call with an operator (not forgetting to inform her that this was a data phone call).[743] Success was indicated by a "high-frequency tone" followed by the message: "YOU ARE NOW IN COMMUNICATION WITH (DATA) CENTRAL."[744] The computer had to announce itself, establish its presence, as a human answering the phone would have. It also asked, "Who is calling?" by asking for the "billing number," a 10-character code that identified the customer to be billed. From then on, the operator was to follow the system's specific syntax: file acronyms, commands, operators, and connectors.[745] By modern standards, the ASR 33 had many limitations: it was slow, very noisy to operate (the keys had significant resistance), and had only upper-case letters.[746] But it was nevertheless able to transmit data to and from the computer, demonstrating the "wonder" of remote communication.[747]

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[741] Western Union, "Product Data Sheet: Model 33 TWX, ASR, KSR and RO sets," Undated, Sam Hallas Telecomms Documents Online Repository. Accessible online at: http://www.samhallas.co.uk/repository/telegraph/teletype_33_specs.pdf.
[742] Ohio Bar Automated Research, "User Manual," undated (probably early 1969), D Series, Folder D22, OBAR papers.
[743] Ohio Bar Automated Research, "User Manual," undated (probably early 1969).
[744] Ohio Bar Automated Research, "User Support Sheet," undated (probably early 1969), D Series, Folder D22, OBAR papers.
[745] Ohio Bar Automated Research, "User Support Sheet."
[746] Robert J. Asman, "The Ohio Experience," The Proceedings of the First NCAIR Conference on Legal Research and the Computer (Phoenix, Arizona, October 26-28, 1972), 31, P Series, Folder P19, OBAR papers; Ohio Bar Automated Research, "User Manual," undated (probably early 1969).
[747] Asman, "The Ohio Experience."

Figures 2 and 3: Two Data Corporation employees demonstrate teletype operation for managing information retrieval via computer.[748]

[748] Data Corporation, "Management Information Retrieval Via Computer Boosts Profit Potential," *Information! A Report to Management on Profit-Making through Computer Technology*, June 1966, D series, Folder D10, OBAR papers.

Arter & Hadden had an ASR 33 console installed in the winter of 1970.[749] Like many other law firms, their teletype was probably rented from AT&T.[750] Although teletypes could have been purchased outright or rented through the telephone company, OBAR and Data Corporation encouraged law firms to rent them.[751] There was not much competition in the telecommunication sector at the time, and since the same corporation owned the telephone company and the teletype manufacturer, they must have figured that attorneys would be better off if their phone lines, equipment, and technical support would all come from AT&T. The console was set up in the law library at Arter & Hadden, where the library staff oversaw its operation.[752] It was rarely used, and most lawyers continued to rely on the extensive law library and the expert assistance of the firm librarian, Joseph Zolich.

The Koykka Affair

In August 1970, Thomas ("Tom") V. Koykka, a senior partner at Arter & Hadden, decided to use the OBAR console at Arter & Hadden for the first time. Koykka had started work on a memorial resolution for the late Chief Justice of the Ohio Supreme Court, Kingsley A. Taft, who had passed away on March 28th of the same year.[753] For inclusion in the memorial resolution, Koykka hoped to use OBAR to produce a list of all the opinions Judge Taft wrote for the court and a list of all the cases in which he dissented.

Koykka left home in Ashtabula, Ohio, at 19 to attend the University of Michigan and proceeded to the University of Michigan Law School, graduating in 1930.[754] After graduation, Koykka and Frederica Britton, a University of Michigan graduate he married while in law

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[749] "Console Activity - OBAR 1A Program 1970," D Series, Folder D9, OBAR papers.
[750] "Console Activity - OBAR 1A Program 1970."
[751] Frank J. Troy to Danny P. Johnson, August 20, 1969, C Series, Folder C3C, OBAR papers; Leonard A. Weibel to William G. Harrington, March 20, 1970, C Series, Folder C4, OBAR papers.
[752] Rob Meyers, interview by the author, August 14, 2023.
[753] Thomas Koykka to Mariane Prindle, September 16, 1970, D Series, Folder D28, OBAR papers; "Kingsley Taft, 67, of Ohio, State Supreme Court Justice", *New York Times*, March 29, 1970, https://www.nytimes.com/1970/03/29/archives/kingsley-taft-67-of-ohio-state-supreme-court-justice.html.
[754] Draft Registration Cards for Ohio, 10/16/1940-03/31/1947; Record Group: Records of the Selective Service System, 147, Box 796, National Archives at St. Louis; St. Louis, Missouri; "Senior Class Day Program is Presented," *The Michigan Daily 18*, no. 1 (June 17, 1927); "Law School Fund is Established", *The University of Michigan Law Quadrangle Notes* 5, no. 4 (August 1961), 2.

school, moved to Shaker Heights, a suburb of Cleveland, Ohio.[755] Koykka was admitted to the Ohio Bar and began work at McKeehan, Merrick, Arter, and Stewart (later Arter & Hadden).[756]

Koykka remained with the same firm throughout his career, first as an attorney and later as a partner. Koykka's legal practice demonstrated a stubborn refusal to specialize.[757] His practice spanned insurance, tort, patent, tax, corporate, and real estate law. He argued in front of an Ohio appellate court and several cases before the US Supreme Court. In 1972, he published a "scholarly yet practical" book on Ohio appellate procedure.[758] His colleagues described him as a "lawyer's lawyer," having an interest in all phases of the legal process and meticulous attention to the details of the specific case.[759] In 1970, as OBAR consoles were being installed in Arter & Hadden, Koykka was a senior partner at the age of 67.

Koykka's speech was part of a memorial resolution, a portrayal of Justice Taft's life, character, and public service, planned for January 1971 at the Supreme Court of Ohio.[760] Before a short-lived political career and taking the bench in 1948, Taft worked as an attorney alongside Koykka at McKeehan, Merrick, Arter & Stewart.[761] Born in the same year, 1903, both started their work in the early 1930s and advanced to partnership on the same day, January 1st, 1940.[762]

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[755] Thomas V. Koykka; p. 14A [handwritten], line 29, Enumeration District 18-288, Shaker Heights, Cuyahoga, Ohio, *Sixteenth Census of the United States*, 1940 (National Archives and Records Administration, T627, roll m-t0627-03058); United States of America, Bureau of the Census, National Archives, Washington, D.C.; "Social Events," *Detroit Free Press*, July 25th, 1929, 12.
[756] Thomas Koykka was admitted to the Ohio State bar on September 10, 1930. Thomas V. Koykka, The Supreme Court of Ohio Attorney Directory; Thomas Victor Koykka, Draft Registration Cards for Ohio, 10/16/1940-03/31/1947, Records of the Selective Service System 147, Box: 796, National Archives at St. Louis, St. Louis, Missouri.
[757] Email correspondence between the author and Karen Koykka O'Neil dated June 21, 2023.
[758] Thomas V. Koykka. Ohio appellate process; with particular reference to the Ohio rules and forms. 1972. W.H. Anderson Co, Cincinnati. "The Ohio Appellate Process", Ad, The Ohio Bar, volume 45, issue 23 (June 5, 1972), 886.
[759] Karen Koykka O'Neil, email correspondence with the author, June 21, 2023. Koykka was described as a thorough attorney and researcher by his colleagues. See: "Report of Judicial Administration and Legal Reform Committee", *The Ohio Bar: Ohio State Bar Association Reports* 35, no. 17 (April 23, 1962): 481-482.
[760] "Memorial Proceedings for Late Chief Justice Taft," *The Ohio Bar: Ohio State Bar Association Reports* 44, no. 1 (January 4, 1971): 20.
[761] "Kingsley Arter Taft," Ohio Judicial System, Supreme Court, Justices 1803 to Present, The Supreme Court of Ohio & The Ohio Judicial System. https://www.supremecourt.ohio.gov/courts/judicial-system/supreme-court-of-ohio/justices-1803-to-present/kingsley-taft/.
[762] "The Fourth Estate Says," *The Ohio Bar: Ohio State Bar Association Reports* 12, no. 44 (January 22, 1940): 655.

Both were seasoned trial attorneys. Taft, too, lived in Shaker Heights. The two were close, and Koykka felt honored to speak at his memorial.[763]

To prepare his speech, Koykka recruited Joseph Zolich, the firm librarian, to gather information about Judge Taft.[764] He also decided to try to use the OBAR console despite initial skepticism. Bill Harrington, whom Koykka had known from the OSBA, convinced him of OBAR's merits.[765] Koykka's long-time secretary, Antoinette C. Brielmaier, typed the request to Mariane Prindle, a secretary at Arter & Hadden trained in using the OBAR console.[766] Koykka asked Prindle to use OBAR to produce two lists: a list of all the Supreme Court of Ohio cases in which Judge Taft wrote the majority opinion and a list of all the cases in which he dissented. He added that the text of the opinions was not required, only "the title of the case and the citation."

Although Brielmaier and Prindle were both legal secretaries, they differed in status. Brielmaier was a personal secretary, and her status was derived from that of "her" lawyer. Prindle was part of a pool of law firm secretaries, placing her in a lower status. There were significant social and economic differences between secretaries and lawyers at the firm. Like other secretaries of their generation, Brielmaier and Prindle were not married.[767] Prindle was born in Cleveland and never left.[768] Office work ran in the family. Her father, Charles, worked as

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[763] Karen Koykka O'Neil, email correspondence with the author, June 21, 2023.
[764] "Call Report," September 17, 1970, D Series, Folder D28, OBAR papers.
[765] Koykka was active in the OSBA for several decades. In April 1940, as a young attorney, he gave a presentation on insurance law at the Columbus Spring Meeting. Starting in the late 1950s, Koykka began serving as a member of the OSBA's Judicial Administration and Legal Reform Committee. He remained active on the committee, chairing several subcommittees throughout the 1960s. "Columbus Spring Meeting Notes," *The Ohio Bar: Ohio State Bar Association Reports* 12, no. 7 (May 6, 1940): 92; "Report of the Judicial Administration and Legal Reform Committee," *The Ohio Bar: Ohio State Bar Association Reports* 30, no. 17 (April 29, 1957): 339-340; "Report of the Judicial Administration and Legal Reform Committee," *The Ohio Bar: Ohio State Bar Association Reports* 34, no. 42 (October 30, 1961): 1158; "Report of the Judicial Administration and Legal Reform Committee," *The Ohio Bar: Ohio State Bar Association Reports* 43, no. 43 (November 9, 1970): 1256; Thomas V. Koykka to Mariane Prindle, August 7, 1970, D series, Folder D28, OBAR papers.
[766] Koykka to Prindle, August 7, 1970.
[767] Marion A. Prindle, p. 11 [handwritten], line 9, Enumeration District: 92-278, Cleveland, Cuyahoga, Ohio, *Seventeenth Census of the United States*, 1950 1940 (National Archives and Records Administration, Roll: 4368), National Archives at Washington, D.C., Washington, D.C.; Antoinette C. Brielmaier, p. 9 [handwritten], Enumeration District: 92-1058, Cleveland, Cuyahoga, Ohio, *Seventeenth Census of the United States*, 1950 ((National Archives and Records Administration, Roll: 1142), National Archives at Washington, D.C.,Washington, D.C.; Hartman Strom, "Light manufacturing."
[768] Mariane A. Prindle, Ohio Department of Health, Index to Annual Births, 1968-1998, Ohio Department of Health, State Vital Statistics Unit, Columbus, Ohio, USA; Marion A. Prindle, *Seventeenth Census of the United States*.

a clerk and a bookkeeper at Cleveland Union Stockyards, a 60-acre livestock business. Her mother, Mary, the daughter of Irish immigrants, worked as a typist for the WPA library project.[769] Upon finishing high school and one year of college, Prindle, too, found work as a typist, first as a medical stenographer, then as a legal typist.[770] Brielmaier was older and more educated.[771] She worked as a legal secretary from her university graduation until her retirement at 65.[772]

Prindle likely attended one of OBAR's many training sessions in 1970. Although Koykka wrote that there was no urgency, Prindle ran the search on August 10th, 1970, three days after he requested it.[773] She operated the teletype console without Koykka. As usual, she was greeted with the message, "YOU ARE NOW IN COMMUNICATION WITH (DATA) CENTRAL."[774] She was prompted to enter her ten-character identification code, which she did. The next step was to select a "file" and a "message option." Prindle typed "OBAR" to search with the main OBAR database and S to print short messages.[775] Finally, it was time to enter her query. Prindle keyed "$OPINBY EQU TAFT."[776] This string of "commands" and "operators" was meant to

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[769] Mary F. Prindle, p. 8A [handwritten], line 38, Enumeration District 36, Cleveland, Cuyahoga, Ohio, *Fourteenth Census of the United States*, 1920 (National Archives and Records Administration microfilm publication T625, roll 2076), Records of the Bureau of the Census, Record Group 29, National Archives at Washington, D.C., Washington, D.C.; Mary F. Prindle, p. 1B [handwritten], line 55, Enumeration District 92-89, Cleveland, Cuyahoga, Ohio, *Sixteenth Census of the United States*, 1940 (National Archives and Records Administration, T627, Roll: m-t0627-03206), United States of America, Bureau of the Census, National Archives at Washington, D.C., Washington, D.C. WPA stood for the Works Progress Administration, part of the New Deal, which employed millions of jobseekers to carry out public works projects. WPA library projects were meant to expand access to public library services.
[770] Marios A. Prindle, *Seventeenth Census of the United States.*
[771] Brielmaier graduated from Western Reserve University in 1928. Western Reserve University School Yearbook 1928, "U.S., School Yearbooks, 1880-2012" Database (Accessed through ancestry.com). Brielmaier was born in 1906, 3 years after Thomas Koykka. Antoinette C. Brielmaier, Ohio Department of Health, Columbus, Ohio, "Ohio Deaths, 1908-1932, 1938-1944, and 1958-2007" Database (Accessed through ancestry.com).
[772] Antoinette C. Brielmaier, "Social Security Applications and Claims Index, 1936-2007" Database (Accessed through ancestry.com).
[773] Thomas V. Koykka to Mariane Prindle, August 7, 1970. D series, Folder D28, OBAR papers; "Call report," September 17, 1970, "Arter & Hadden," D Series, Folder D28, OBAR papers; Printout dated 8/10/70, D series, Folder D28, OBAR papers.
[774] Printout dated 8/10/70.
[775] The OBAR "Cheat Sheet" lists two options under "message option": L for long and S for short. OBAR "Cheat Sheet," Undated, D22. In documented searches that selected "L," the system's messages responded in whole sentences. Instead of "Request" like in Prindle's search, the system responded with "Enter Request." Rather than "Print?" like in Prindle's search, it asked "Do you want to print answers?". Search examples, undated, Folder D27.
[776] This line had to combine "command" with "operator" to specify what to look for and where. Most searchers at the time elected to use the command "$ANY" which searched all possible fields with the operator "EQU." The latter was meant to limit the search to statements that were "logically equal to" whatever text followed the operator. Prindle opted for a search that specified the "segment" as "OPINBY," the field that denoted the name of the judge who wrote the opinion. OBAR "Cheat Sheet," undated, D Series, Folder D22, OBAR papers; "OhioBar Automated Research, OBAR: Search Examples," Explanatory Note, D Series, Folder D22, OBAR.

retrieve all the opinions that had "Taft" in their "opinion by" field. The system responded with a number: 290 entries found, which Prindle asked to print. Even though the system only printed the citations, not the full text of the decision, it was taxing. The system responded with "Long Retrieval - Please Wait" five times before completing the request. Prindle then continued to run a second query, "$CONCUR EQU TAFT," which produced 12 entries, and a third one, "$DISSENTBY EQU TAFT," which produced 156 entries. Again, she was prompted to wait while the system processed the print request. The search took 20 minutes and resulted in a teletype printout and citations printouts, the latter of which were printed on a high-speed printer in Dayton and delivered to Koykka within the week.[777] Twenty minutes of electronic search had produced what would have taken hours or days to do manually.

Prindle realized she had made a mistake in searching for concurring opinions as soon as she transmitted the request. She used "CONCUR" instead of "CONCURBY."[778] But, she reasoned that since the computer gave her an "entry response" and not an error message, it was not significant, although she did suspect the number was rather low.[779] She did not think much of it or mention it to Koykka. Koykka thanked her for the printouts, again in a typed memo, writing that this was "most helpful."[780]

About a month later, as Koykka was reviewing the printouts, he must have realized that 12 concurring opinions were an awfully low number. Taft's term at the Supreme Court of Ohio spanned over 20 years, and he was known for his "unusually high number" of opinions.[781] He started to review the citations listed as "concurring opinions" and was surprised to learn that seven of the twelve results the system produced were wrong.[782] In some instances, the mistake was one of identity (the wrong Taft), while in others, the mistake was one of classification (it was

[777] Thomas V. Koykka to Mariane Prindle, August 14, 1970. D Series, Folder D28, OBAR papers; "Call report," September 17, 1970.
[778] Mariane Prindle to William G. Harrington, September 17, 1970, C Series, Folder C5, OBAR papers; "Call report," September 17, 1970.
[779] Prindle to Harrington, September 17, 1970.
[780] Thomas V. Koykka to Mariane Prindle, August 14, 1970. D Series, Folder D28, OBAR papers; "Call report," September 17, 1970.
[781] "Kingsley Arter Taft," Ohio Judicial System, Supreme Court, Justices 1803 to Present, The Supreme Court of Ohio & The Ohio Judicial System. https://www.supremecourt.ohio.gov/courts/judicial-system/supreme-court-of-ohio/justices-1803-to-present/kingsley-taft/
[782] Thomas V. Koykka to Mariane Prindle, September 16, 1970, D Series, Folder D28, OBAR papers.

not a concurring opinion). Two cases were clearly wrongly attributed to Taft since they were decided in 1913 and 1923, decades before Taft became a judge. In both, the name Taft appeared in the text, but it was a different Taft. Two other cases, while referencing the correct Taft, were not "concurring opinions." The first of these, *State ex. Rep Lipson v. Hunter*, was a *per curiam* decision that reflected the collective opinion of the court (rather than identifying the judge who authored the decision).[783] Koykka reasoned that this decision made it to the list because of the line that indicated that Taft (and other judges) "concur." "This does not qualify as a case where Taft wrote a 'concurring opinion,'" he wrote in a memo detailing his findings to Prindle. The second was *Porter v. City of Oberlin*, one of Taft's landmark opinions in which he wrote the principal, not concurring opinion.[784] Finally, in three additional cases, Taft had dissented, not concurred.

The results were not helpful for Koykka's purposes. Rather than simply discarding them, he sat down to write a memo to Prindle. For every mistaken case, Koykka offered a reason for the inclusion of the opinion in "concurring opinions." His memo to Prindle reflected the meticulousness that he was known for. But, more than that, it reflected his attempts to understand and account for the system's results. Koykka suspected that perhaps there "was something wrong with the questions we put to the computer." His belief in the system was shaken but not destroyed (Koykka described his condition as one of "moderate shock").[785] He asked Prindle to try again and see if a "better, and more reliable, list of cases" could be produced. Closing the memo, Koykka entertained the possibility that something was wrong with the computer rather than the questions. He suggested sending Bill Harrington a copy of the memo to bring to his awareness a potential problem with the computer.

Prindle read the memo, and her heart sank. She worried that it was her error that caused the problem. She later reported that she "went to him at once and confessed the mistake."[786] But, by then, Koykka had already started digging through the majority and dissenting opinions. Koykka recruited Zolich, the firm librarian, to count Taft's opinions by going through the Ohio

[783] *State, ex Rel. Lipson v. Hunter, Bldg. Commr*, 2 Ohio St. 2d 225, 208 N.E.2d 133 (Ohio 1965).
[784] *Porter v. City of Oberlin*, 1 Ohio St. 2d 143, 205 N.E.2d 363 (Ohio 1965).
[785] Koykka to Prindle, September 16, 1970.
[786] Mariane Prindle to William G. Harrington, September 17, 1970.

Supreme Court reporter's volumes.[787] He documented his findings in another memo also dated September 16th, 1970.[788] It turned out that the other numbers were wrong, too. Koykka and Zolich found 327 majority opinions, 133 concurring opinions, and 149 dissenting opinions. He added that he was no longer interested in running the search again but merely in alerting "those operating the machinery" to its shortcomings. He asked Prindle to pass this memo, too, to Harrington, using harsher words this time. "One of his late converts," wrote Koykka, "no longer a zealot, questions the new religion and is in danger of backsliding."[789]

Koykka was not just dismayed by the system's performance. He saw the system's failure to provide accurate numbers of written opinions as indicative of its complete unreliability:

> I am especially disenchanted with the product turned out by this OBAR search. I should think that if, on any matter, the computer were to regurgitate data with absolute accuracy it would be a list of cases in which the opinion was written by a given judge. That the system proves unreliable on so simple an assignment, makes me think it may be necessary to issue a directive that research hereafter is to be done initially by the human brain and hand, and OBAR used only to see if, by chance, it can produce something more that is significant.[790]

Koykka's memos to Prindle set in motion a series of repeat searches, letters, and phone calls at OBAR and Data Corporation. The following day, Prindle phoned Jay Previte, a Data Corporation representative, telling him about the failed search.[791] Previte ran his own search.[792] His search produced the same results. Based on his conversation with Prindle, he ran "CONCUR," like Prindle did, and "CONCURBY." After an initial error message, "CONCURBY" produced 133 entries.[793] Previte sent his printout and memorandum to Len Weibel, his boss at Data Corporation. He also called Joseph Zolich to gather more information,

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[787] "Call Report," September 17, 1970.
[788] Koykka to Prindle, September 16, 1970.
[789] Koykka to Prindle, September 16, 1970.
[790] Koykka to Prindle, September 16, 1970.
[791] "Call Report," September 17, 1970.
[792] Jay Previte, Undated OBAR printout, D Series, Folder D28, OBAR papers.
[793] Jay Previte, Undated OBAR printout.

but Zolich was "highly uncooperative," he reported. Zolich, reported Previte, said that "there was no connection between the OBAR problem and his research." Finally, word had reached Harrington. Still on the same day, Harrington ran his own search and called Koykka to report his results.[794] Harrington's numbers did not correspond to the initial OBAR search, Previte's search (the results of which remained internal), or Koykka's manual search.

Later that day, Prindle, puzzled by the discrepancies, ran another search, which produced another set of numbers, also distinct.[795] Prindle heard from Koykka that Harrington searched not just the main OBAR database but also two additional files - the Supreme Court database and the "Hot File,"[796] a separate database of recent court decisions. She agonized over not searching these databases herself.[797] Her second search, on the afternoon of September 17, 1970, included the additional databases.[798] Searching the "Hot File," she found eight more majority opinions, two more dissenting opinions, and none concurring. The results did not match any of the other searches.

Prindle was guilt-stricken but also determined to learn from her mistakes. As the OBAR-trained secretary at Arter & Hadden, she was the middle woman between OBAR and attorneys at Arter & Hadden. She felt responsible for the system's faulty results in front of Koykka and for her mistakes in operation in front of Previte and Harrington, all of which she kept apologizing for.[799] Still, she was trying to get to the bottom of things. She carefully documented the dates and times of her searches and the results. She sent copies of all the relevant documents to Koykka, OBAR, and Walter A. Bates, the Arter & Hadden partner who replaced Quintrell as the person in charge of OBAR.[800]

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[794] Memorandum by Thomas V. Koykka to Executive Committee, September 17, 1970. C Series, Folder C5, OBAR papers.
[795] Prindle to Harrington, September 17, 1970.
[796] Prindle to Harrington, September 17, 1970.
[797] Had Prindle searched the "Hot File" on August 10th, 1970, she was unlikely to find all other results because Data Corporation had not yet uploaded the latest volumes with Taft's opinions to the "Hot File." H. Donald Wilson to William G. Harrington, September 23, 1970. C Series, Folder C5, OBAR papers.
[798] Mariane Prindle, OBAR printout, Rerun of 8/10/70 search for Mr. Koykka, C Series, Folder C5, OBAR papers.
[799] Prindle to Harrington, September 17, 1970.
[800] Prindle to Harrington, September 17, 1970; Walter A. Bates to Frank J. Troy, June 23, 1970. S Series, Folder S8, OBAR papers.

Prindle told Koykka about her latest results. Baffled, Koykka composed a memo directed to the executive committee at Arter & Hadden and asked Prindle to send a copy to Harrington.[801] He summarized the results of the various OBAR searches in a simple table:[802]

Taft Opinions	Original OBAR	TVK Hand Count	Harrington OBAR	Prindle OBAR
Majority	290	327	303	298
Concurring	12	133	138	133
Dissenting	156	149	161	158
TOTALS	458	609	602	589

Koykka sensed that the matter was quickly becoming more than a failed search. The memo was distributed widely, including Bates and Quintrell. Nevertheless, Koykka did not recommend that the firm take any measures (like ending its subscription). He also mentioned Harrington's phone call to him, adding that Harrington was anxious to get to the bottom of the problem.[803] Prindle followed Koykka's request and sent the memo and a letter to Harrington.[804]

With these memos and the involvement of the entire firm, the matter had grown in proportion. What Pat Holdreith, another MDC employee, later dubbed the "Koykka Concern" also stirred trouble internally. The matter reached MDC's president, Don Wilson, who reported back that the "Hot File" only included volumes 18 and 19 of the Ohio Supreme Court Reports.[805] While Harrington was operating under the assumption that the "Hot File" contained volumes 20 and 21 (the latter being the last volume including decisions by Judge Taft), that was not the case. Harrington was right to be confused. Throughout the summer, he attended weekly meetings on the progress of the new OBAR IA program, where the inclusion of volumes 20-22 in the "Hot File" by the end of August was discussed.[806] When the Koykka affair broke, Harrington called

[801] Memorandum by Thomas V. Koykka to Executive Committee, September 17, 1970.
[802] Memorandum by Thomas V. Koykka to Executive Committee, September 17, 1970.
[803] Memorandum by Thomas V. Koykka to Executive Committee, September 17, 1970.
[804] Mariane Prindle to William G. Harrington, September 18, 1970, C Series, Folder C5, OBAR papers.
[805] H. Donald Wilson to William G. Harrington, September 23, 1970, C Series, Folder C5, OBAR papers.
[806] "OBAR IA Program Progress Report #12," August 24, 1970, D Series, Folder D13, OBAR papers; "OBAR IA Program Progress Report #13," August 24, 1970, D Series, Folder D13, OBAR papers. However, it was during the

and asked MDC's staff directly which volumes were included in the "Hot File." He was told that it contained all volumes up until volume 21.[807] Wilson explained that, in reality, this was not correct. Although Wilson expressed some concern over the Koykka matter, he chalked it up to the "missing volumes." "It would be my impression that the difference between your count and the manual count which we understand was run is probably to be found in the cases decided in volumes 20 and 21," he wrote.[808]

At the same time, Pat Holdreith, took to the Koykka matter.[809] Responding to Koykka's memo from September 17th (and the correction from September 18th), Holdreith, who was described as a "master searcher," decided to run his own search. Running a search on the afternoon of September 24th, 1970, he found 298 majority, 135 concurring opinions, and 158 dissenting opinions.[810] These numbers did not correspond to Harrington's results (as quoted in Koykka's memo) but were identical to Prindle's results from September 17th, 1970. Holdreith knew, however, that the database (including the "Hot File") did not include all recent volumes. He thus conducted a manual search of volumes 19, 20, and 21 of the Ohio Supreme Court Reports.[811] In these volumes, he found an additional 11 majority, 4 concurring, and 4 dissenting opinions, which produced results closer to Harrington's but still not identical.

This was a curiosity. It seemed that no one at MDC or OBAR knew exactly which recent volumes were included in the system. While Previte's original memo from August 1970 contained a handwritten notation that the system was updated through Volume 17, the progress reports from the same time reflected a different picture. At the end of September 1970, there was still much confusion about the content of the "Hot File." While Wilson assured Harrington that the current "Hot File" contained volumes 18 and 19, Holdreith, his employee, included in his manual count volume 19, potentially counting the results in that volume twice but achieving

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summer that the extra 500 hours of key punching effort needed to type volumes 21 and 22 were the reason for hiring two additional typists, see: "OBAR IA Program Progress Report #3," June 22, 1970, D Series, Folder D13, OBAR papers; "OBAR IA Program Progress Report #8," July 27, 1970, D Series, Folder D13, OBAR papers.

[807] Wilson to Harrington, September 23, 1970.

[808] Wilson to Harrington, September 23, 1970.

[809] Memorandum by Pat Holdreith to Dianna McCabe or W. G. Harrington, received October 5, 1970. D Series, Folder D28, OBAR papers; Memorandum by Holdreith to D. NcCabe or W. G. Holdreith, undated (estimated early October 1970), D Series, Folder D28, OBAR papers.

[810] Memorandum by Pat Holdreith to Dianna McCabe or W. G. Harrington, received October 5, 1970.

[811] Memorandum by Pat Holdreith to Dianna McCabe or W. G. Harrington, received October 5, 1970.

similar (although not identical) results to Harrington's search from earlier in September. This was partly because the database was a moving target, and updates would always be ongoing. This must have been frustrating for developers and users alike, neither of whom could definitively determine the contents of the database at any given moment, which made it impossible to know how they should supplement their search. Wilson offered to solve this problem by providing, in the future, a description of what each of the files contained.[812]

As September was coming to an end, it was becoming clear that the "missing volumes" alone could not account for the discrepancies with Koykka's manual count. No electronic or combined search was able to attain the same numbers. On September 25th, 1970, Koykka wrote again to the OBAR executive committee.[813] He explained that he instructed Prindle to conduct another electronic search (a third one). This time, he asked her to use Harrington's exact questions. The results were almost, but not entirely, identical. His findings were organized in yet another table:[814]

Taft Opinions	Original OBAR	T.V.Koykka Hand Count	Harrington OBAR	Prindle OBAR	Prindle Using Harrington Questions
Majority	290	327	307	298	308
Concurring	12	133	138	133	138
Dissenting	156	149	161	158	161
Totals	458	609	602	589	607

Although the totals line in the table reflected a miscalculation (the total for "Harrington OBAR" should have been 606), it clearly reflected a serious problem, which Koykka described as: "the computer does not always answer the same questions the same way."[815] Koykka

[812] Wilson to Harrington, September 23, 1970.
[813] Memorandum by Thomas V. Koykka to the Executive Committee with a copy to Mr. Harrington, September 25, 1970, C Series, Folder C5, OBAR papers.
[814] Memorandum by Thomas V. Koykka to the Executive Committee with a copy to Mr. Harrington, September 25, 1970.
[815] Memorandum by Thomas V. Koykka, September 25, 1970.

quipped that these latest results "will make Bill Harrington tear his hair," adding playfully that this was no cause for concern since "he has lots of it."

In the meantime, another possible explanation emerged at MDC as to the discrepancies. Holdreith reported to Harrington that another MDC employee, Jim Schumacher, conducted a manual search.[816] Schumacher looked at the indexes of volumes 151 through 177 (which covered the period between 1951 and 1964). He found 34 instances of what he described as a case that was "being cited twice."[817] In the index of volume 164 of the Ohio Supreme Court Reports, for example, *Motor Co. v. Bowers* and *George Albers v. Bowers* appeared as two separate cases. The cases were, however, consolidated in appeal, which meant that there was one opinion in both.[818] Judge Taft wrote one dissenting opinion in that case, but the index in the printed volume reflected two.[819] In the OBAR system, they appeared as one opinion. It was then possible that the numbers did not match because of these differences in approach.

Holdreith's memo also added another crucial detail. He typed that

> Jim Wilkinson and Dik Parker of Arter, Hadden said at the September 30 Cleveland luncheon the OBAR program and terminal were on the 'hot seat' at Arter, Hadden. Any immediate support from Columbus that can be given will help straighten out a tough situation.[820]

Holdreith's message was sent to the teletype machine at the Ohio Bar Association offices in Columbus, Ohio. Frank Troy, OBAR's president who intercepted it and was unfamiliar with the "Koykka concern," wondered why OBAR was on the "hot seat" at Arter & Hadden. His message was intercepted this time by Jay Previte, who answered:

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[816] Teletype printout from Holdreith to D. McCabe or W. G. Harrington, undated (estimated early October 1970) D Series, Folder D28, OBAR papers.
[817] Teletype printout from Holdreith to D. McCabe or W. G. Harrington, undated (estimated early October 1970).
[818] Bowers was the Ohio Tax Commissioner in 1955, and the decisions concerned the appeals were discussed jointly as appeals from the board of tax appeals in *Interstate Motor Freight System v. Bowers*, 164 Ohio St. 122 (1955); Teletype printout from Holdreith to D. McCabe or W. G. Harrington, undated (estimated early October 1970).
[819] William G. Harrington to Thomas V. Koykka, October 7, 1970. D Series, Folder D28, OBAR papers.
[820] Memorandum by Thomas V. Koykka to the Executive Committee with a copy to Mr. Harrington, September 25, 1970.

> Am not sure why OBAR is on 'the hot seat' except to say that Koykka is very important man in the firm and he is highly disappointed with system at this time.

Troy responded: "All right. We will have to find a way to satisfy Koykka."[821]

The chosen way to "satisfy" Koykka was a detailed letter from Harrington.[822] The letter was intended for Arter & Hadden's executive committee as much as it was intended to be read by Koykka. Koykka's accusation, backed up by evidence, that "the computer was not answering the same question in the same way" was serious. Harrington had to tackle that criticism head-on, which he did. Harrington's letter, whether intentionally or not, read like a trial transcript. He began his letter by writing that the issue was "whether or not the computer in fact was guilty of error in making this search."[823] The letter was to detail the results of the inquiry by OBAR and MDC.

More than anything, Harrington's answer charted the differing notions of reliability, validation, and trust between him and Koykka. While Koykka treated counting as the most basic capacity of a computerized legal research system, Harrington dismissed Koykka's "findings" as peripheral. According to Harrington, the system's intended purpose was to search for court opinions on a specific point of law. Counting was thus a by-product of the system and could not be used to assess its reliability. But Harrington did not stop there. Even if they were discussing the intended output, it was its developers who could validate the system's accuracy, not lawyers and librarians armed with books and typewriters.

As Harrington detailed why users simply could not verify the system's operation by themselves, he revealed that the text in the machine was not, and could not, be identical to the text in books. While the missing volumes accounted for some of the discrepancies, it was Holdreith's second finding that explained why manual and computerized research could not

[821] Teletype printout from Holdreith to D. McCabe or W. G. Harrington, undated (estimated early October 1970).
[822] William G. Harrington to Thomas V. Koykka, October 7, 1970. D Series, Folder D28, OBAR papers.
[823] Harrington to Koykka, October 7, 1970.

produce the same results. As typists key-punched the text from the printed volumes onto punch cards, they were not just mindlessly copying. They had to determine what to enter in all the required fields, ranging from the citation information, to "syllabus," statement of facts, the name of the judge who authored the decision, result, concurring opinions (and the names of the judges who wrote them), footnotes, and more.[824] In other words, the determinations of the typists, editors, and proofreaders were recorded in the database along with the "converted" court opinions.

The typists and their determinations were absent from Harrington's description. Instead, he focused on the problems with law books. At length, he described how the front-page indexes of court reporters, which detailed what judge wrote what opinion, sometimes indexed a single decided decision as two. Where two cases were consolidated in appeal, and one decision was rendered in both, the printed index cited both cases as two separate opinions, while the OBAR database considered it as a single one.[825] "It is apparent," concluded Harrington, "that if the hand count made in your office was based on a check of the tables in the front of the volumes… the count could vary from that which would be located by the computer performing the same task."[826]

An additional discrepancy in numbers might have been caused by another determination by the database engineers. At issue were the "segments" that contained the information on whether judges concurred or joined an opinion.[827] The OBAR database, Harrington explained, documented concurring or joining judges even when they did not write an opinion but simply cast their vote for another judge's opinion. OBAR considered these judges as "having expressed" themselves on a particular topic to provide guidance to lawyers on the views of specific judges even when they did not write a full opinion. Harrington's explanations revealed the "constructed"

[824] The OBAR database was comprised of individual documents which had different "segments" and "type descriptions." These "segments" (what we refer to as data fields in contemporary computing) contained data about the opinion and the text of the opinions in full. A single document represented a single decided case (including majority, concurring, and dissenting opinions and all the information about the case). What appeared in print as a single decided case was converted to a single document with multiple "segments." Data Corporation, Preliminary draft, "Section II: Preparation and Input of Data," 2-4, undated, D Series, Folder D20, OBAR papers.
[825] Harrington to Koykka, October 7, 1970.
[826] Harrington to Koykka, October 7, 1970.
[827] Harrington to Koykka, October 7, 1970.

nature of the database. Information could not be "converted" from print to computer without intervention, and the database reflected human judgment as much as the printed, indexed, and processed volumes of court decisions.

Finally, Harrington moved to the verdict in the case of Koykka versus the computer. He acknowledged three mistakes. One, when Harrington first ran the search, he was misinformed about the last volume contained in the database (this was the matter of the "missing volumes"). Second, he mentioned Prindle's mistake in search framing. Third, when MDC compared the printed volumes with the database, it indeed found "two errors in the conversion," which failed the computer. The computer could not locate two decisions written by Judge Taft because of these errors in (human) data entry. None of these mistakes was the computer's fault but the result of human actions (or omissions). The results of the thorough reexamination of the search system, Harrington reported, were that OBAR "remain[ed] confident that the system is basically thorough and accurate."[828] The computer was found not guilty.

Harrington had cast a shadow over future attempts to verify the system's results or assess its accuracy. Theoretically, a lawyer who operated the system as intended (for searching case law) could compare the citations that the computer produced with the results of manual examinations. If any lawyer engaged in such a project, which would seem like a waste of billable hours, it was not documented or communicated to OBAR or MDC. Instead, lawyers' complaints focused on the technical unreliability of the system (if it was down or uncommunicative), billing and invoicing, and the lengthy questionnaires they had to fill out about their use of the system.

It is worth it to pause on the issue of numbers. For Koykka, the number of results was a key way to verify that the system was accurate. Counting, the most basic numerical function, was where manual and electronic research were supposed to be identical. For Harrington, the numbers were not a measure of the system's accuracy because they were never intended as such. The numbers did not hold any truth value (they did not represent anything "in the world"); they were merely rough indicators of one's success in formulating a search query. They resembled numerical values on a scale, not the results of a mathematical equation. They were not precise

[828] Harrington to Koykka, October 7, 1970.

but subject to the system's overall function, which was to serve as a tool to provide lawyers with court opinions on a specific point or by a specific judge.

Reliability after Koykka

The Koykka affair did not severe Arter & Hadden ties with OBAR. On October 15th, 1970, Harrington wrote to Thomas Quintrell.[829] "As you undoubtedly know, we have been having a rather involved discussion with Tom Koykka," he opened. Harrington asked Quintrell to bring his letter to Koykka to the attention of Arter & Hadden's executive committee. Koykka targeted many of his memos to the executive committee, and Harrington wanted to display that OBAR was taking his concerns seriously. Harrington recognized that the matter was not merely about Koykka's search but rather about restoring confidence in OBAR at Arter & Hadden. Quintrell responded the same day.[830] After admitting that the matter "induced considerable comment in the firm," Quintrell promised he would pass along the letter to the executive committee "in case [Koykka] has not already done so." The meaningful part of Quintrell's letter was what was absent from it. There was no mention of suspending the service or severing the ties with OBAR.

At MDC, too, concern over the Koykka affair was still ongoing. Holdreith, having received a copy of Harrington's letter to Koykka, arranged a phone call to Arter & Hadden.[831] Holdreith, along with Weibel and Wilson, called Walter Bates and Richard Parker, their contacts at Arter & Hadden, on the same day, October 15th, 1970.[832] The official reason for the call was a review of the new program, OBAR IA. Unofficially, MDC was checking the pulse on the "Koykka affair." Weibel reported that it had "not severely limited our effectiveness within the firm." Although OBAR IA involved an increased price, the two Arter & Hadden partners focused more on the equipment (OBAR IA involved switching their teletype terminal with a new color

[829] William G. Harrington to Thomas A. Quintrell, October 7, 1970. S Series, Folder S8, OBAR papers.
[830] Thomas A. Quintrell to William G. Harrington, October 15, 1970, S Series, Folder S8, OBAR papers.
[831] Patrick J. Holdreith to William G. Harrington, October 15, 1970, S Series, Folder S8, OBAR papers.
[832] Leonard A. Weibel, "Call Report," October 15, 1970, D Series, Folder D28, OBAR papers.

monitor) and its placement. Eager to demonstrate the new color terminal, Holdreith promised to arrange a demonstration at the Leader Building, located on the same block as their offices, by the end of October.[833] "Their reaction in light of the recent Koykka affair is heartening," wrote Weibel.

The new color monitors impressed everyone who came into contact with them. That included Harrington, who first witnessed a demonstration of the latest color monitors in September 1970.[834] The monitors were Sony-manufactured Cathode-Ray Tube (CRT) screens used as color televisions or color displays for early computers. MDC coupled the new color monitors with their newly developed Key-Words-in-Context (or "KWIC") system. On a bright blue background, case names were displayed in green, citations in yellow, the immediately surrounding text in red, and ordinary text in white.[835] Coupled with electronic keyboards, these computer consoles were a far cry from teletypes that had no screens and only one continuous roll of paper on which search results were printed in monochrome.

MDC was not the first to develop a KWIC system or to use color CRT monitors, but they were the first to couple and perfect the two.[836] Previous KWIC versions only placed search terms in the context of other indexed words. MDC's version displayed words on either side of the search term, allowing operators to see the search terms as part of the retrieved text, a "meaningful extract" rather than a string of terms.[837] It was this development that excited Harrington the most. He reported to Jim Preston, his long-time collaborator in developing OBAR, that it was "substantially better" than he had anticipated. Although there would be a slight increase in price (Harrington estimated it at an additional $50 per month) to transition from the black and white to high-speed terminals, the new system would be more useful and easier to market.

[833] Leonard A. Weibel, "Call Report," October 15, 1970.
[834] William G. Harrington to James F. Preston, Jr., September 23, 1970, C Series, Folder C5, OBAR papers.
[835] Harrington, "A Brief History," 551.
[836] Bourne and Hahn, *A History of Online Information Services*, 247.
[837] Bourne and Hahn, *A History of Online Information Services*, 247.

Harrington, perhaps swept in the excitement of the new color terminals, made no mention of his fierce critique of CRT monitors from the previous month. After Don Wilson told Harrington in early August that MDC was considering transitioning to high-speed terminals and decommissioning lower-speed ones such as the teletype, an alarmed Harrington wrote that this would result in "a majority of the members of the Bar … being excluded from the service."[838] The cost of a CRT terminal was eight times that of a teletype: $10,500 versus $1,320.[839] The former had to be purchased and supported by a high-speed printer and dedicated personnel. These differences translated to significantly higher subscription costs. An August 1970 OBAR price schedule cited a monthly cost of $568 for a teletype terminal, $650 for a 1050, $1,067 for an Execuport, and a whopping $3,167 for a CRT terminal coupled with a teletype for backup installed in a law firm.[840] The costs for legal buildings (buildings with many law firms that had public terminals) and law libraries were much higher.

After months of work, the new year marked the gradual switch to the OBAR IA program, the second generation of the OBAR system.[841] Work on OBAR IA started with the creation of Mead Data Central in February 1970. The goal was the intensive development of a program to be marketed across the nation.[842] With the formation of MDC, two new attorneys joined the development efforts. H. Donald ("Don") Wilson was one of Arthur D. Little's partners who headed the consulting team that Mead hired to evaluate the market for electronic legal research.[843] Jerome Rubin, a seasoned attorney from New York City, was asked to consult on the project by Arthur D. Little executives who knew him socially and professionally.[844] Both graduated from Harvard Law School and were far removed from the local Ohio context when they assumed the two senior management positions at MDC.[845]

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[838] William G. Harrington to Jerome Rubin, August 19, 1970, C Series, Folder C5, OBAR papers.
[839] H. Donald Wilson to William G. Harrington, August 24, 1970, Attached "OBAR Price Schedule", 8.24.1970, C Series, Folder C5, OBAR papers.
[840] Wilson to Harrington, August 24, 1970, "OBAR Price Schedule" 8.24.1970.
[841] "OBAR IA Program Progress Report #2." D Series, Folder D13, OBAR papers.
[842] H. Donald Wilson to James F. Preston, May 8, 1970. Although MDC was formed in February 1970, Data Corporation continued to exist until May 1970. Bourne and Hahn, *A History of Online Information Services*, 256.
[843] Bourne and Hahn, *A History of Online Information Services*, 255-257.
[844] Jerome S. Rubin, interview with Kathy Carricky, July 12, 1993, P Series, Folder P67a, OBAR papers.
[845] Kathy Carrick, "Chapter 10: Notes and Observations," P Series, Folder P67m, OBAR papers.

Although OBAR IA had many improvements over the previous version, the color CRT monitors were the most dramatic change for users, who were excited by the transformation. By February 1971, a CRT color terminal replaced Arter & Hadden's previous teletype terminal.[846] The terminal was one of the six color terminals installed and one of three installed in the Union Commerce Building in Cleveland, serving the three most prominent law firms.[847] Apart from these three, one color console was installed at the Cleveland Law Library Association offices in the Cuyahoga County Courthouse, and two others were installed in Columbus, Ohio, one in OBAR's offices and one at the offices of Knepper, White, Richards & Miller. Still, the majority of the 18 installed consoles installed were teletypes.

The installation of the new equipment was governed by a new contract signed on February 18th, 1971.[848] The new contract provided an additional introductory period of six months before Arter & Hadden's monthly obligation would be raised to $2,300.[849] With the new contract, Pat Holdreith sent a note to Arter & Hadden. He reiterated that Arter & Hadden are trusted collaborators in the development process. The new high-speed terminals were limited in number, and their purpose was to "test and evaluate the service" and obtain "invaluable engineering and design information" to improve the system.[850] Explaining that the firm's lawyers would need to fill in forms and share details about their experience, he concluded that "your cooperation and assistance in this effort will aid us greatly in building a better service to meet the needs of Ohio lawyers."

The new contract was also more explicit about training and assistance. The agreement specified that OBAR would provide the services of a "trained representative" to assist with the "mechanical use of the system" but not with "search framing." Without mentioning secretaries or attorneys, the contract assured that OBAR would also provide training through instructional sessions. Despite these formal statements, OBAR was still deeply invested in making sure that there were a few trained operators of the system at law firms that could assist lawyers. At Arter

[846] "Installed equipment as of February 26, 1971," D Series, Folder D9, OBAR papers.
[847] "Installed equipment as of February 26, 1971."
[848] "Subscription Agreement: Ohio Bar Automated Research and Arter & Hadden," February 18, 1971, S Series, Folder S8, OBAR papers.
[849] Patrick J. Holdrerith to Arter & Hadden, January 26, 1971, S Series, Folder S8, OBAR papers.
[850] Holdrerith to Arter & Hadden, January 26, 1971.

& Hadden, Barbara Brattin took over Prindle's role as the person trained in using the OBAR terminal.[851] Brattin, who started as an associate at Arter & Hadden in 1967, was the only female attorney in the firm.[852] She graduated from Wellesley College in 1963 and the University of Michigan School of Law in 1967.[853] Like many of the attorneys at the firm, Brattin lived in Shaker Heights.

More than the new monitors, it was Brattin's work that contributed to the moderate growth in usage of the OBAR console in the Winter of 1971. Although the new contract did not specify this arrangement, it was agreed between Arter & Hadden, Robert J. Asman (OBAR), and Bud Shapiro (MDC) that the firm was to receive a "lawyer training fee credit" at the end of each month until "further notice."[854] Brattin recorded 31.3 hours of work on OBAR.[855] She prepared an operating instructions booklet, assisted twenty-two associates with using OBAR (including Koykka and Zolich), and met with Bud Shapiro and Mead's PR personnel on March 2nd, 1971. February 1971's log of 37.3 hours of online time, a company record, reflected her work.[856] The arrangement was part of OBAR and MDC's attempts to increase usage at Arter & Hadden despite some opposition. "It was difficult to remarket an OBAR terminal back into Arter & Hadden," wrote Holdreith at the end of March 1971.[857] In addition to "the stigma of the Koykka concern," the system malfunctioned frequently and was rarely used.

The details of the agreement with Brattin were not documented beyond a brief notation on an "account information" document and remained unclear. In March 1971, Holdreith wrote that OBAR's invoices did not correctly reflect "Miss Brattin's hourly legal training fee at terminal" and asked that more credits be added to Arter & Hadden's account.[858] In the summer, when OBAR sent Brattin a check for her services (she sent an invoice for her February and

[851] Memo from P. J. Holdreith to R. J. Asman et al., March 31, 1971, S Series, Folder S8, OBAR papers.
[852] Barbara Brattin Kacir, Prabook.com, https://prabook.com/web/barbara_brattin.kacir/1253954.
[853] "Cause and Effect: A Donor and His Scholarship Recipient Reflect on Their Connection to Michigan Law," *Law Quadrangle, Michigan Law* (Spring 2017), https://quadrangle.michigan.law.umich.edu/issues/spring-2017/cause-and-effect-donor-and-his-scholarship-recipient-reflect-their-connection ; Barbara Brattin Kacir, Prabook.com.
[854] Mead Data Central, "Account Information," March 10, 1971, S Series, Folder S8, OBAR papers.
[855] Barbara Brattin to R. J. Asman, May 3, 1971 with Bill no. 67799 (May 3, 1971), S Series, Folder S8, OBAR papers.
[856] "Mead Data Central: Customer Usage - High-Speed Terminal 1971," D Series, Folder D24, OBAR papers.
[857] Memorandum "Billing Opportunities at Arter & Hadden," March 31, 1971. S Series, Folder S8, OBAR papers.
[858] "Billing Opportunities at Arter & Hadden, " March 31, 1971.

March work in May 1971), Robert J. Asman rejected her accounting, correcting her hourly rate to $25 instead of her invoiced $35. "Under the special circumstances of my request to you," he wrote to Brattin, "I felt that $25 would be reasonable."[859] Asman added that she could recover the difference if he misunderstood the arrangement. She never did. At a time when associates' hourly rates ran between $30 and $60, she did not insist on being paid as an attorney would.[860]

Despite the uncertainty surrounding Brattin's compensation, OBAR viewed Brattin's contribution as meaningful. From OBAR's perspective, Brattin appreciated the system and supported her colleagues at Arter & Hadden who wished to use the system.[861] As March 1971 was ending, Holdreith once again visited Arter & Hadden to test the water. Present at the meeting were partners Preston and Wilkinson, associate Brattin, and office manager Amyx.[862] Formally, the meeting focused on billing and invoices, which, at least according to Holdreith, were a major source of stress to Arter & Hadden lawyers. Holdreith described partners Preston and Wilkinson as "hospitable" but also documented their irritation with "invoicing." Additional concerns were missing credits, wrong application of the introduction period, corrections for invoices, and other "billing opportunities." Beneath the surface, however, Holdreith's visit was also meant to get the pulse on the "Koykka situation." He must have been relieved to discover that Thomas Koykka was once again using the system. Holdreith noted that Brattin assisted Koykka in using the OBAR system on March 10th. Alas, the system malfunctioned.

Even with Brattin's commitment and the new color monitors, the OBAR console was rarely used. After peaking in February 1971, Arter & Hadden reported weekly use dropped to an average of 4.5 hours in March and April.[863] The excitement from the new color monitors and the new contract was clearly wearing off, and the customer usage reports reflected a dip in use in all law firms with CRT monitors. In the summer, Len Weibel and Pat Holdreith devised a plan to encourage lawyers to use the system more frequently.[864] They identified a few barriers to more

[859] Robert J. Asman to Barbara Brattin, June 11, 1971, S Series, Folder S8, OBAR papers.
[860] Mark J. Green, "The High Cost of Lawyers," *New York Times*, August 10, 1975.
[861] "Billing Opportunities at Arter & Hadden," March 31, 1971.
[862] Memorandum by P. J. Holdreith to R. J. Asman et al., March 31, 1971, S Series, Folder S8, OBAR papers.
[863] "Mead Data Central: Customer Usage - High-Speed Terminal 1971." D Series, Folder D24, OBAR papers; Accounting Sheet, Arter & Hadden, February - June 1971, S Series, Folder S8, OBAR papers.
[864] Memorandum by L. A. Weibel to H. D. Wilson et al., July 19, 1971, C Series, Folder C8, OBAR papers.

frequent use: the price, the limited database (which, at that point, included only state case law and legislation), the reliability and accuracy of the system, and lawyers' existing research habits.[865] They offered a flat and reduced monthly rate for 90 days.[866] The pricing scheme was simplified: one rate per month ($10 per month per lawyer) that included all components (equipment, phone line, and online time) and was independent of use. In addition, OBAR would train 2-3 associates and up to 3 summer clerks free of charge.

Training summer clerks was not only about supporting the attorneys who used the console. OBAR and MDC wanted to turn the clerks into "OBAR promoters" in their law school or the firms they would eventually join as associates.[867] Holdreith and Weibel anticipated that a reduced and flat price would encourage heavier use, which would generate additional positive effects. With a flat price, lawyers would be keener to use the system, even on small matters. Heavier use would make lawyers more comfortable with the system and produce some "heavy users" in law firms. Heavier use would also translate into valuable data for law firms and OBAR/MDC. After the trial period of 90 days, law firms could pick a pricing schema that fit their usage. OBAR/MDC would have better data on the system's use and performance, the questions researched, and the attitudes of lawyers in the firm towards the system. Writing to subscribers, OBAR specified that "in return" for the rate reduction, MDC would be permitted to monitor questions (unless they were sensitive or confidential) and that OBAR/MDC would be allowed to submit questionnaires to all personnel and conduct interviews with the most active users.[868]

On June 8th, 1971, Holderith drafted a letter to subscribers about the new reduced price and sent it to Robert Asman.[869] He attached a note that suggested terminating the agreement with Brattin because of the reduced price of the summer contract at Arter & Hadden.[870] Asman heavily edited Holdreith's draft. First, he completely omitted an extensive section titled "reasons

[865] Weibel to H. D. Wilson et al., July 19, 1971.
[866] Robert J. Asman to Robert B. Preston, June 22, 1971, S Series, Folder S8, OBAR papers.
[867] Weibel to H. D. Wilson et al., July 19, 1971; P. J. Holdreith to Ellis H. McKay, draft, June 8, 1971, S Series, Folder S8, OBAR papers.
[868] Robert J. Asman to Robert B. Preston, June 22, 1971, S Series, Folder S8, OBAR papers.
[869] P. J. Holdreith to Robert B. Preston, draft, June 8, 1971, S Series, Folder S8, OBAR papers; Holdreith to McKay, draft, June 8, 1971.
[870] Memorandum by Pat Holdreith to Robert J. Asman, June 8, 1971, S Series, Folder S8, OBAR papers.

for the reduction" which spelled out the price reduction goals. Asman must have felt that Holdreith's statements fit more in an internal memo than a letter to a client.[871] Crossing out the subheading "Could You Please Help?" in Holdreith's draft, Asman used words that made clear what Arter & Hadden was to do in return for the price reduction. The result was a much shorter and more elegant letter. Arter & Hadden's Robert Preston had no trouble understanding the point of the price reduction. He returned Asman's letter, signed, adding that the reduced fee proposal was appropriate and "will lead to the increased use of OBAR, not only currently, but in the future as well."[872]

It is hard to establish whether the reduced rate led to an increased use of the system in the summer of 1971. The surviving customer usage reports do not cover the summer months of 1971.[873] Even if it did, it did not have a lasting effect on console usage since monthly usage throughout 1972 was still in the single digits.[874]

Asman also followed Holdreith's advice regarding Brattin. With the new pricing scheme, wrote Asman to Brattin, it was "unnecessary" to continue the existing arrangement.[875] Although OBAR no longer paid Brattin to assist with the console, she continued supporting Arter & Hadden's attorneys as they used the system.[876] In early July, on the advice of Asman, Brattin wrote to Richard Giering, the chief engineer of the OBAR system.[877] She reported repeated technical difficulties with the OBAR system. In addition, Brattin was trying to ascertain whether users at Arterr & Hadden were "violating search limitations without understanding exactly what these limitations are."[878] The problems ranged from sessions restarting midway through to unreliable results and error messages. The letter followed a conversation with Bob Asman in which he explained that certain searches were improperly phrased. For example, the system

[871] Indeed, this exact phrasing appeared in the internal memo that Len Wiebel distributed to OBAR and MDC employees and executives later that summer. Memorandum by L. A. Weibel to H. D. Wilson et al., July 19, 1971, C, Folder C8, OBAR papers.
[872] Robert B. Preston to Robert J. Asman, June 28, 1971, S Series, Folder S8, OBAR papers.
[873] Mead Data Central, "Customer Usage - High-Speed Terminal – 1971," D Series, Folder D24, OBAR papers.
[874] "Customer Usage – 1972," D Series, Folder D24, OBAR papers.
[875] Robert J. Asman to Barbara Brattin, June 11, 1971, S Series, Folder S8, OBAR papers.
[876] Barbara Brattin to Richard Giering, July 6, 1971, S Series, Folder S8, OBAR papers.
[877] Brattin to Giering, July 6, 1971.
[878] Brattin to Giering, July 6, 1971.

could not do a proximity search with a whole phrase, only with words. We do not know whether Giering replied.

These were not the only malfunctions documented in July 1971. It seemed that, with increased usage, subscribers were experiencing more malfunctions (or at least, they were more prepared to call MDC to report them). On July 12th, 1971, Pat Holdreith visited Arter & Hadden. He reported back to executives in MDC that "reliability continues to be a problem."[879] It seemed that no one at Arter & Hadden was pleased with the system. Bob Frey reported that he could not get online. Two other associates, Dave Davies and Lance Johnson, reported service irregularities, which Holdreith characterized as "disheartening." Holdreith also noted that Barbara Brattin was "disenchanted" with the system due to its unreliability. Brattin also told Holdreith about a difference in searching the same phrases in the Dayton (the original) and Washington databases.[880] The associates also complained about having to fill out MDC's questionnaires, which they viewed as time-consuming and redundant.

MDC was still closely monitoring Arter & Hadden. A few days after the visit, Holdreith wrote to Bob Preston.[881] Without mentioning any of the criticism that associates at Arter & Hadden raised, he informed Preston that he had arranged classes on mechanical techniques and search framing at Arter & Hadden on two dates in July.[882] Among the 19 associates invited to the class, Holdreith included many of the associates who had complaints or contacted MDC about malfunctions and problems. Brattin's name was not included.

While the explicit goal of these classes was to gain the associates' trust and reacquaint them with the system, Holdreith used the opportunity to collect more information and report it back to MDC and OBAR executives.[883] Holdreith recorded John Martindale's excitement about the system, which he described as ideal "for fact situations." Other attorneys who attended the class were less excited. Laurenson reported that he tried to use the system twice, and the system

[879] Memorandum by P. J. Holdreith to L. A. Weibel, July 15, 1971, D Series, Folder D28, OBAR papers.
[880] P. J. Holdreith to Barbara Brattin, July 12, 1971, S Series, Folder S8, OBAR papers.
[881] Patrick J. Holdreith to Robert B. Preston, July 15, 1971, S Series, Folder S8, OBAR papers.
[882] Holdreith to Preston, July 15, 1971.
[883] Memorandum by P. J. Holdreith to R. J. Asman et al., "Call Report on Arter & Hadden," July 28, 1971, S Series, Folder S8, OBAR papers.

malfunctioned both times. “Laurenson thinks,” reported Holdreith, “that every time the system malfunctions it would be easier just to stick with the books.”[884]

In an effort to diagnose the problem or restore Laurenson’s trust in the system, Holdreith took him to the computer room to use the system together. His efforts backfired. The system malfunctioned twice in ten minutes while Holdreith and Laurenson tried to operate it. Holdreith documented the search in a call report.[885] Laurenson was interested in a search concerning the theft of a car while the key was still in the ignition.[886] At 11:00 a.m., Holdreith dialed the Washington computer but received a “technical trouble” error message. He tried again 10 minutes later and received the same error message. At 2:40 p.m., he tried dialing the Dayton computer using the same query (“Key*”), but the response time was prolonged, and he could not make any progress. In the service irregularity form, he marked “very slow response,” “technical trouble message,” and a question mark next to “telephone line malfunction (noise).”

Two days later, on July 22nd, 1971, Holdreith repeated the search. The system “went dead.”[887] Holdreith called Washington and was informed that the system was down because of technical problems. His report reflected his own frustration and Laurenson’s response. “Customer Laurenson upset because it was his fourth try on the system and the fourth time he got a malfunction,” documented Holdreith. “He’s of the opinion books are easier than computers,” concluded Holdreith in the report. Later on the same day, Martindale called to report that he, too, encountered a malfunction.[888] Describing the incidents to MDC and OBAR executives, dismayed Holdreith wrote that “once again it is reliability that is blocking the acceptance of the OBAR system.”[889]

In August, Holdreith reported another malfunction at Arter & Hadden.[890] This time, it was a search by associate Harry T. Quick. Quick was looking for case law on jury misconduct.

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[884] Memorandum by P. J. Holdreith to R. J. Asman et al., “Call Report on Arter & Hadden,” July 28, 1971.
[885] Call Report, July 20, 1971, S Series, Folder S8, OBAR papers.
[886] Call Report, July 22, 1971, S Series, Folder S8, OBAR papers.
[887] Call Report, July 22, 1971.
[888] Call Report, July 22, 1971.
[889] Memorandum by P. J. Holdreith to R. J. Asman et al., “Call Report on Arter & Hadden,” July 28, 1971, S Series, Folder S8, OBAR papers.
[890] Mead Data Central, Inc, “Service Irregularity Report,” August 4, 1971, S Series, Folder S8, OBAR papers.

Starting broad, Holdreith and Quick were able to narrow down the search to 43 entries. The problems began when they asked the system to print the results. The system malfunctioned. Holdreith called Dayton.[891] He was told that the system would be restarted in 15 minutes. Holdreith waited and recorded 25 more minutes of work on this search when he was later able to print the results.

The system continued to malfunction well into the fall of 1971. Martindale, a "partner and great user," in Holdreith's words, went back to the books after technical problems prevented him from using the system on October 14th, 1971.[892] Another partner, Bob Glaser, also had trouble with the system in October. Holdreith recommended a tutorial "as soon as possible."[893] As 1971 was ending, Bob Asman, who assumed OBAR's presidency from Preston in the summer, wrote to subscribers to apologize for recent malfunctions in the system.[894] MDC was making technical changes that would support a more significant number of users: it moved the database to an IBM 370-155 computer introduced by IBM the prior year, developed new software, and expanded the telephone lines.[895] Asman promised that these changes would improve reliability and speed.

In January 1972, the transfer to the new computer was still underway, and MDC's staff recommended shutting down the computer for one week in mid-January.[896] The database was also expanding. New York case law and a new Federal tax base were being added. With the promise of better service, it was not long before Arter & Hadden's Bob Preston received another letter from MDC about raising rates.[897] "It had been necessary to change the OBAR pricing structure and increase prices for the OBAR service," wrote Asman. Asman outlined two possible

[891] Memorandum by P. J. Holdreith to R. J. Asman et al., on "100 Minutes Billable to Arter & Hadden", August 5, 1971, S Series, Folder S8, OBAR papers.
[892] Memorandum by P. J. Holdreith to R. J. Asman et al., on "J. F. Preston., Plus Arter & Hadden Service Irregularities," October 22, 1971, S Series, Folder S8, OBAR papers.
[893] Memorandum by P. J. Holdreith to R. J. Asman et al., on "J. F. Preston., Plus Arter & Hadden Service Irregularities," October 22, 1971.
[894] R. J. Asman to Robert B. Preston, December 2, 1971, S Series, Folder S8, OBAR papers.
[895] R. J. Asman to Robert B. Preston, December 2, 1971, S Series, Folder S8, OBAR papers.
[896] R. J. Asman to Robert B. Preston, January 12, 1972, S Series, Folder S8, OBAR papers.
[897] R. J. Asman to Robert B. Preston, January 27, 1972, S Series, Folder S8, OBAR papers.

pricing structures: a fixed monthly fee with an additional sum for each hour of use or unlimited use. Arter & Hadden chose the latter.[898]

Although Arter & Hadden's use of the console was consistent, it remained low throughout 1972.[899] For most of 1972, the console was used rarely: an average of 7 hours a month. Other law firms were heavier users. The other two prominent law firms in the Union Commerce Building, Jones, Day and Squire, Sanders, and Dempsey, used the console for 21 and 44 hours a month on average, respectively.[900] Other heavy users in 1972 included the attorney general's office, Ohio Legislative Service, the law firm Vorys, Sater in Columbus, Case Western Reserve, and the Cleveland Bar Association.[901] At Arter & Hadden, unlike other firms, use declined in 1972 to an all-time low, even relative to the first months of 1971, which followed the Koykka Affair.[902]

At the end of 1973, with a growing presence in New York City law firms, Ohio accounted only for half of the system's usage.[903] Arter & Hadden's use remained sporadic. Lawyers there logged on to the system for a few hours a week on average, even though the last months of the year usually documented a spike in use among Ohio law firms.[904]

The winter months of 1973 welcomed another change in the relationship between OBAR and Arter & Hadden. November 19th, 1973 marked the signature of a third agreement between OBAR and Arter & Hadden.[905] The service's name was now Lexis. The system now covered the original Ohio materials, the federal courts, and New York, Missouri, and Texas.[906] This was a

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[898] Robert B. Preston to R. J. Asman, February 1, 197, S Series, Folder S8, OBAR papers.
[899] Customer Usage – 1972, D Series, Folder D24, OBAR papers.
[900] Squire, Sanders & Dempsey and Jones, Day were among the largest law firms in the United States. The pioneering study *The Wall Street Lawyer* by sociologist Erwin O. Smigel listed both firms as two of 17 large law firms (more than 50 attorneys) in the United States (excluding New York firms) in the early 1960s. Erwin O. Smigel, *The Wall Street Lawyer* (London: The Free Press of Glencoe, 1964): 178, 203.
[901] Customer Usage – 1972.
[902] "OBAR Users Pricing History," September 1, 1972. M Series, Folder M7A, OBAR papers.
[903] "Mead Data Central: Lexis Customer Usage (Hours)," 1973. D Series, Folder D24, OBAR papers.
[904] "Mead Data Central: Lexis Customer Usage (Hours)," 1973.
[905] Agreement between Ohio State Bar Association Automated Research (OBAR) and Arter and Hadden, November 19th, 1973, S Series, Folder S8, OBAR papers.
[906] The additional materials were added through collaborations between MDC and a New York State non-profit (who sponsored access to federal materials) and the state bar associations of New York, Missouri, and Texas.

great improvement from access to "certain Ohio legal textual materials" promised in the first contract. The minimum monthly obligation was raised to $2,500 a month. The subscriber also had to pay an additional $2,250 for training, which now included written instructions, videotapes, and a day-and-a-half-long training session.[907]

Although the third contract was signed by the two parties to the agreement, Arter & Hadden (under Robert B. Preston) and OBAR (under Robert J. Asman), it was also signed by MDC's president, Jerome S. Rubin. Appendix A was labeled a "proposal" for subscriptions, written entirely by MDC, and contained information about the program, libraries, charges, training and education, hours of operation, and other information about MDC. OBAR was already being phased out. A contract signed on July 7th, 1971, sold the proprietary interest in the software and the database to MDC in return for ten years of royalty payments.[908] Both OBAR and MDC were operating at a loss well into 1977. The chosen solution, where MDC injected advances into OBAR against future royalties, made OBAR's financial situation precarious. By 1976, the royalties earned by OBAR reached a high of $111,843, but the total advances, which bore interest, were in excess of $600,000.[909] By 1975, Lexis had shed its connection to the Ohio State Bar.[910] It prided itself on providing services to New York lawyers, first and foremost.

Arter & Hadden remained a subscriber to Lexis until it ceased its operations and declared bankruptcy in the summer of 2003. Following two decades of national expansion, the firm grew to about 450 attorneys nationwide in 1999.[911] Its Cleveland offices remained in the Union Commerce Building, by then renamed the Huntington Building. The 2000s marked the firm's

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[907] Agreement between Ohio State Bar Association Automated Research (OBAR) and Arter and Hadden, November 19th, 1973.
[908] Harrington, "A Brief History."
[909] Mead Data Central, "Summary of Advances, Royalties & Interest, (OBAR), July 1, 1970 through December 31, 1976, Schedule II, F Series, Folder F13, OBAR papers.
[910] Although ads in Ohio continued to refer to the system as OBAR/Lexis, ads outside of Ohio and newspaper coverage made no mention of OBAR or the Ohio State Bar Association. Robert Enstad, "Computer gives lawyers instant library on rulings," *Chicago Tribune*, May 18, 1975, 44; "Business Bulletin," *Wall Street Journal*, November 29, 1973, 1; "Call a Friend who has OBAR!," law Fact, *The Cuyahoga County Bar Association* 48, no. 11 (November 1976), P Series, Folder P11, OBAR papers.
[911] "Cleveland's oldest law firm will halt operations," *Cleveland 19 News*, https://www.cleveland19.com/story/1347707/clevelands-oldest-law-firm-will-halt-operations/.

end, with Arter & Hadden losing over 200 attorneys, senior partners, and many clients in three years.

Conclusion

Arter & Hadden's relationship with OBAR was unique but representative of similar relationships. It was unique because no other law firm had a partner engage in such a public and vigorous campaign to test the system's reliability. Among Cleveland law firms, although Arter & Hadden was quick to install an OBAR console, the firm did not take to it as readily as other firms did. However, its story, from installation to "domestication," was similar to other law firms, libraries, and law schools. OBAR and MDC created a routine for introducing and installing computer terminals. As time went by, they standardized their subscription contracts, support structure, and even computer terminals. When the Lexis terminal was introduced in 1973, it was a more polished product than the assemblage of telephone lines, teletypes, and printers marketed at the end of the 1960s.

OBAR and MDC used techniques of trust to foster the use and reliance on the terminal at Ohio law firms and libraries. They relied on "live" demonstrations, which allowed lawyers to experience the strong pull of the remote computer console rather than read or hear about it. They also ran training sessions for lawyers, secretaries, and librarians. The training sessions were meant to focus on building the required skillset for using the system. Focusing on teaching the skills that would transform the legal research process diverted attention away from discussions of the system's accuracy or reliability. Both early demonstrations and training sessions focused on the process of using the computer, breaking it down into manageable "chunks." OBAR's strategy was to focus not on the computer itself but on providing a service: teaching lawyers the required skills to operate it.

Another technique of trust was the use of "insiders" as ambassadors or conduits between the system's manufacturers and its users. Despite the public marketing campaign that encouraged "direct use," OBAR and MDC leaned heavily on secretaries, law students, and junior attorneys to serve as "support personnel" for operating the OBAR system. Although OBAR terminals

entered law firms through the top, by leveraging the Ohio State Bar Association ties with senior partners, the "insiders" were often drawn from the bottom of the office hierarchy. It was their assistance, creativity, and willingness to master the system that provided the necessary support for the operation of the consoles.

Additional techniques of trust were discursive techniques.[912] OBAR's insistence on "direct use" despite the practice of relying on "intermediaries" was itself a technique of trust. The promise of access to data (court cases) without mediation or intervention was meant to create an impression of a system that required no trust at all. Like numbers, machines, or algorithms, a system without human intervention was not suspect. An additional discursive technique was needed to maintain the promise of the system once lawyers began to use it more heavily. Vidan and Lehdonvirta's account of Bitcoin shows how malfunctions were recast as temporary bugs that did not threaten the system's promise of "trustlessness."[913] In OBAR's case, malfunctions and downtime were described as growth pains in a system that was constantly on the cusp of being complete and perfect. To bridge the "promissory gap" between promise and reality, OBAR and MDC assured attorneys that the system's success was just around the corner.[914]

This chapter also demonstrated the thorny nature of notions such as validity, reliability, and credibility in software. The "Koykka Affair" revealed the inherent difficulty of verifying the system's operation by comparing it to print sources. It demonstrated that the text in the machine was not, and could not, be identical to the text in books. Validation was not a settled concept. Koykka and Harrington embodied competing notions of validity and reliability. While Harrington pushed for evaluating the system's intended function, Koykka relied on a more open-ended notion of validity, in line with the multiplicity of uses that print research allowed. Among other lawyers of the time, reliability was not as problematic as it was for Koykka. That the system was not adopted immediately and widely was due to financial, practical, and technical

[912] For a discussion of discursive techniques of trust in cryptocurrency see Gili Vidan and Vili Lehdonvirta, "Mine the Gap: Bitcoin and the Maintenance of Trustlessness," *New Media & Society* 21, no. 1 (2019): 42-59.
[913] Vidan and Lehdonvirta, "Mine the Gap."
[914] Vidan and Lehdonvirta use the term "promissory gap" to describe the gap between the promise of "trustlessness" that undergirded Bitcoin and the reality which required trust in a centralized group of developers.

issues. If anything, lawyers' willingness to repeatedly use the system in the face of malfunctions and without definitive evidence of its validity demonstrated their desire to believe in the system's promise.

Excursus 2

Service or Product?

The fiercest opposition to OBAR's commercialization came from within its ranks. In 1971, Diana Fitch McCabe, OBAR's director of administrative services, published her account of OBAR.[915] Fitch McCabe's article was different from contemporaneous publications by OBAR's pioneers. She offered a vision, not just a description of the system. "It is evident," she wrote, "that computerized legal research is an equalizer and that it can remove economic inequality, professional inequality and social inequality."[916] By equalizing lawyers' resources, she wrote, the computer "takes away, substantially, the advantage the large firm lawyer, with his vast and comprehensive library, has over the struggling practitioner who feels extravagant owning a set of West Reporters."[917] Per Fitch McCabe, this leveling of the playing field had another result: lawyers' success would depend on their skill, not on the resources at their disposal.

Fitch McCabe joined OBAR shortly after the first installation of an OBAR terminal, in January 1970.[918] She had moved to Columbus, Ohio, three years prior. After completing her bachelor's degree in government at the University of Oklahoma, she spent two years studying public affairs at George Washington University and two more years studying law at Oklahoma City University Law School. After moving to Ohio in 1966, Fitch McCabe registered for a master's degree in political science and wrote her thesis on public law.

Fitch McCabe's tenure with OBAR was brief. When she joined in 1970 she was freshly divorced from her first husband, McPherson P. McCabe, and cared for their four-year-old son, Shannon.[919] Shortly after joining OBAR, at the age of 29, she married her second husband,

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[915] Diana Fitch McCabe, "Automated Legal Research," *Judicature* 54, no. 7 (1971): 283-289.
[916] Fitch McCabe, "Automated Legal Research," 283.
[917] Fitch McCabe, "Automated Legal Research," 285.
[918] "OBAR Adds Staff Member," *The Ohio Bar: Ohio State Bar Association Reports* 43, No. 4 (January 26, 1970): 95.
[919] Diana Fitch McCabe, Ohio Department of Health, Columbus, Oio, USA, "Ohio Divorce Index, 1962-1963, 1967-1971 and 1973-2007" database (Accessed through ancestry.com); "OBAR Adds Staff Member," *The Ohio Bar*.

William G. Harrington.[920] Harrington adopted Shannon and after Harrington's resignation from OBAR, all three moved to Connecticut.[921] The couple remained together until their divorce in 1992, a few years before Harrington's death.[922]

Even though Fitch McCabe did not criticize OBAR (the system or the organization) in her 1971 article, over time, it served as a stark reminder of an alternative vision. Harrington, writing in 1984, complained that her article was haunting the developers of computer-assisted legal research systems and was "still cited by those who remain disappointed with the social impact of computer-assisted legal research."[923] Per Harrington, Fitch McCabe "wrote that the system was failing conspicuously to meet the promise some of its founders had held for it."[924] He, too, recognized that the promise of equalizing the "research power" of solo practitioners and small firms with that of large firms and that the improvement of low income and middle income clients' services was not realized.

Fitch McCabe's article was the only public testament that the OBAR system was once motivated by an alternative vision – one that emphasized its function as a service to the profession and the public writ large. As the discussion in Chapter 4 shows, this was also true of the project's early inception, which included it as part of a comprehensive vision to remove barriers to the "administration of justice." Unlike Fitch McCabe's article, however, this early vision was only discussed sporadically on the pages of *The Ohio Bar* and was largely ignored with the launch of the OBAR organization.

For all outward appearances, OBAR's pioneers kept up a united front in publications about OBAR and in their marketing materials. But, particularly after the incorporation of MDC, tensions between two camps began to form. The lawyers, Harrington, Fitch McCabe, and Frank Troy (OBAR's executive secretary) were on one side. The technologists, particularly H. Don

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[920] Diana Fitch McCabe, Ohio Department of Health, Office of Vital Statistics, Columbus, Ohio, "Ohio Marriage Index, 1970 and 1972-2007" database (Accessed through ancestry.com); William G. Harrington, "A Brief History of Computer-Assisted Legal Research," *Law Library Journal* 77, no. 3 (1984-1985): 549.
[921] "William G. Harrington, 68; Wrote Mysteries and Thrillers," *New York Times*, November 16, 2000.
[922] "Connecticut Divorce Index, 1968-1997" database, Connecticut Department of Public Health, Hartford, Connecticut. Archive Collection Number: DR09368.
[923] William G. Harrington, "A Brief History," 549.
[924] William G. Harrington, "A Brief History," 549.

Wilson, who was brought in by Mead to replace Data Corporation's management, were on the other. While the lawyers pushed to view the developing system as a service to the profession, MDC, particularly after the A.D. Little market study and with its new management, pushed for making the system into a profitable product.

In August 1970, Harrington wrote to Jerome Rubin of Data Corporation.[925] The letter was prepared by Harrington, Troy, and Fitch McCabe. It outlined three main "areas of concern": console placement, console type, and an emphasis on rapid console placement and new features crowding out improvements in the system's reliability.

On the matter of console placement, the three tied between the Bar's expectation that "the OBAR system to become a service to the profession" and decisions about where to place consoles.[926] They explained that current plans prioritized placing consoles in "the most populous counties and the larger firms at the expense of smaller firms and less populous area of the state." But, OBAR should be a service to "the entire profession," they reiterated, serving "ultimately every lawyer in the state."[927] In addition, they disputed MDC's premise that consoles would be most heavily used in large law firms. Solo practitioners might well be the heaviest users of the OBAR system, while remaining idle in large firms, they wrote. More than anything, they stressed that one "cannot establish a set of criteria by which to judge a law firm and expect to arrive at accurate judgments of a firm's potential for buying computer time."[928] In other words, even if the purpose was solely making a profit, MDC was operating based on unfounded assumptions about what course of action would prove most profitable.

The second issue the three addressed, which was not unrelated, was the type of consoles. At issue was a comment by Don Wilson. Wilson had said that MDC would only support high-speed CCI communication consoles and discontinue support of cheaper alternatives. At the time, most installed consoles were Teletype consoles, which were slower and clunkier but significantly cheaper. Supporting only high-speed consoles would result in an exclusion of "a majority of the

[925] William G. Harrington to Jerome Rubin, August 19, 1970, C Series, Folder C5, OBAR papers.
[926] Harrington to Rubin, August 19, 1970, 1.
[927] Harrington to Rubin, August 19, 1970, 2.
[928] Harrington to Rubin, August 19, 1970, 2.

members of the Bar," wrote the three.[929] Like the decision to prioritize console placement only in particular law firms, the decision to support only high-speed consoles was turning OBAR into a service fit only for large law firms.

Finally, the three turned to the most pertinent issue: the gulf between their approach and MDC's approach to OBAR. They began by mentioning that in November 1969, OBAR and MDC agreed on a "short moratorium on console placement" for a period of sixty days, that was then extended repeatedly (it was still in effect as they composed their letter).[930] The moratorium was a compromise reached after OBAR's staff had objected to Data Corporation's "hurried effect to place as many consoles as possible in the shortest possible time."[931] It had devastating results. Troy, the three explained, had to respond to lawyers' requests for placing an OBAR terminal with various excuses, trying to delay the installation as much as possible. This resulted in a loss of enthusiasm that the three thought would be "extremely difficult to rebuild."[932]

Like with console placement and type, the three thought MDC's push to install as many consoles as fast as possible was the wrong approach. OBAR's staff considered the system's poor performance, what they phrased as "the continuing inability of the computer to service as many customers simultaneously as was promised," as the main problem.[933] Despite Data Corporation's promises that the system would handle 250 terminals in Ohio simultaneously as early as August 1969, it could barely handle the few installed terminals simultaneously in mid-1970.[934] This was no small matter. To service the legal profession, the system had to function. "It is our judgment," wrote the three, "that no developmental work is more important than this and that the correction of this fault should have had the very highest priority, to the exclusion of any work toward adding new systems features until the existing system was able to serve the legal profession."[935] Instead of working on "new capabilities," they wrote, the emphasis should be to create a system that worked "effectively and reliably."[936] While the three stressed that they were "enthusiastic

[929] Harrington to Rubin, August 19, 1970, 2.
[930] Harrington to Rubin, August 19, 1970, 2.
[931] Harrington to Rubin, August 19, 1970, 2.
[932] Harrington to Rubin, August 19, 1970, 2.
[933] Harrington to Rubin, August 19, 1970, 2.
[934] Harrington to Rubin, August 19, 1970, 3.
[935] Harrington to Rubin, August 19, 1970, 3.
[936] Harrington to Rubin, August 19, 1970, 3.

about the improvements to the system," they also wrote that "they continue to feel… that the adding of new features is, in essence, simply the embellishment of a basically weak system and not a basic strengthening of the search system."[937] If the search system, which was the heart of service, did not work properly, no amount of bells and whistles would convince lawyers to rely on the new technology instead of their existing habits.

The three understood well that OBAR and MDC embodied two competing conceptions of the system. While the letter stressed the extent to which the OBAR system was a "service to the legal profession," it was clear that, at least according to OBAR's staff, MDC promoted a business-oriented approach of relying on heavy marketing and accelerated development rather than maintaining a high level of service or ensuring the reliability of the system. In attempt to reconcile the two, the three added a paragraph that read:

> Service to existing and prospective customers in the legal profession should have priority over the other goals of the corporation for the present. The present search system is quite capable of performing a significant service to the Bar and of producing a significant amount of revenue to the benefit of both OBAR and MDCI. If the existing system were made to run properly for a large number of customers, the soundness of the system both as a service to the Bar and as an investment for Mead Corporation could readily be demonstrated.[938]

The letter also mentioned another urgent matter: OBAR's precarious financial situation.[939] Although OBAR's staff felt that the moratorium on console placement was justified, it created a huge financial problem. The three explained that when they initially funded the OBAR system through debentures sold to Ohio Bar members, they planned for a finished system in August 1969 that would begin to return some of the initial investment. "I believe we had made sound business judgments as to the amount of capital OBAR would need to continue in business until revenue was produced in amounts sufficient to support the organization," the letter read.[940]

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[937] Harrington to Rubin, August 19, 1970, 3.
[938] Harrington to Rubin, August 19, 1970, 3.
[939] Harrington to Rubin, August 19, 1970, 3-4.
[940] Harrington to Rubin, August 19, 1970, 3.

As of August 1970, the goal of earning enough revenue to support OBAR was out of reach. OBAR had to subsist on monthly loans from MDC, a situation that "seriously threaten[ed] the integrity and the actual future of the OBAR organization."[941] As an organization, OBAR was in critical condition.

The letter suggested alternatives: either a long-term loan or an arrangement that would tie OBAR's financial obligations to MDC and the system's revenue.[942] The current agreement could not be tolerated for long. It threatened OBAR's effective operation and independence. The three outlined a plan for the second alternative: OBAR would repay MDC only "out of revenues produced by the system" and "only when the total amount of revenue produced exceeds a minimum amount necessary to provide an effective level of operations for OBAR."[943] In the prevailing state of affairs, OBAR could not hire any new staff or expand its offices.

Although the specific requests were financial, the letter also sketched the change in approach that had taken place since the incorporation of MDC. "OBAR does not loom as large in the total operation as it once did," read the letter. MDC, which came to stand in for Data Corporation in the relationship, was the organ of a large corporation, not a small contractor. This had financial ramifications. MDC did not depend on OBAR, and OBAR completely depended on MDC. The financial imbalance shaped MDC's approach more generally. OBAR's staff felt that their input and counsel were "being ignored by certain MDCI personnel."[944] OBAR was providing the reputation, prestige, and credibility of the Ohio Bar while losing substantial control over the system's design. The three wrote that OBAR was not prepared to "become simply a smiling sponsor standing to one side."[945]

Finally, Harrington addressed a matter that outlined additional differences between the two organizations. While OBAR was behaving according to professional norms, MDC was of a different breed. He protested the "amount of procrastination and inertia" of some MDC

[941] Harrington to Rubin, August 19, 1970, 3-4.
[942] Harrington to Rubin, August 19, 1970, 3-4.
[943] Harrington to Rubin, August 19, 1970, 4.
[944] Harrington to Rubin, August 19, 1970, 4.
[945] Harrington to Rubin, August 19, 1970, 4.

personnel.[946] MDC was not providing answers on time (or sometimes at all). There was no clear progress. OBAR was in the difficult position of answering lawyers' questions with partial information which resulted in "a severe loss of confidence."[947] It seemed that MDC was avoiding OBAR. "We think it is important that we have specific information to the very greatest possible extent, even if the specific information is disappointing," wrote the three.[948] They also reported that potential users' confidence and enthusiasm were damaged when they received "vague answers" from OBAR or MDC.[949]

Nine months went by. No changes to the OBAR and MDC terms of engagement were made. Fitch McCabe wrote to Harrington on September 29th, 1970.[950] At issue was the latest price schedule MDC was pushing to authorize in conjunction with the OBAR 1A program. Specifically, Fitch McCabe viewed the overtime rate and the carryover time as outrageous. Since both were "being figured on a pressure basis," and essentially included a surcharge when the system was heavily used, their prices could climb to unreasonable rates. "There is no sufficient rationale for this rate to be greater than $100/hr. for all private terminals. This is an intolerable form of economic pressures," she wrote. In addition, she expressed her concern that "all private users should be given the same carry-over privileges… regardless of terminal type."[951]

As the negotiations around the new price schedule continued, Harrington sent another letter via teletype, this time to Charles Chpiro and Don Wilson of MDC.[952] He disputed the "continued assumption that the bar is going to be led by the nose into adopting policies and practices of [OBAR's] choosing, by the application of economic pressure."[953] There should be, he stressed, "a straightforward price schedule and policy, reflecting the cost of your operation plus a reasonable profit, without any attempt to achieve results, other than giving the best possible service and earning enough return to make this possible, by manipulation of prices."[954]

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[946] Harrington to Rubin, August 19, 1970, 5.
[947] Harrington to Rubin, August 19, 1970, 6.
[948] Harrington to Rubin, August 19, 1970, 5.
[949] Harrington to Rubin, August 19, 1970, 6.
[950] Diana Fitch McCabe to William G. Harrington, September 29, 1970, C Series, C5, OBAR papers.
[951] Fitch McCabe to Harrington, September 29, 1970.
[952] Printout, MDC, Att: Chas. Shapiro, Don Wilson, by Bill Harrington, October 9, 1970, C Series, C5A, OBAR papers.
[953] MDC, Att: Chas. Shapiro, Don Wilson, by Bill Harrington.
[954] MDC, Att: Chas. Shapiro, Don Wilson, by Bill Harrington.

Additionally, Harrington protested that, in terms of printers, the price schedule should not make decisions for the lawyer: "the lawyers should be offered a price list, showing what is available and at what cost, and should be given the choices to make for themselves."[955] Tensions were high. Although Harrington concluded by writing that they were "coming closer and closer," he also wrote he hoped that "given two or three months…. we will eventually go into business with no knives sticking out of any accessible portions of each other's anatomy."[956]

In Winter 1970, as the OBAR/MDC contract renegotiations were ongoing. Harrington wrote to Jim Preston that the specifics of the new relationship were being rehashed in endless meetings, letters, and messages.[957] "On the way home on the plane last night I gave a great deal of thought to the current developments and prospects of OBAR," opened the letter.[958] He told Preston that he intended to resign as soon as the current contract negotiations were done and a replacement executive director was found. "I emphatically do not want my decision to be regarded as a criticism of the decisions you are making as to the future of the project, nor even of the MDC management," he added.[959] Harrington hinted that he was dissatisfied with the direction that OBAR had taken as a result of the OBAR/MDC negotiation: "probably we must accept certain things in order to give the project a future at all." Harrington also felt that his "strong opinions" would make the working relationship with MDC untenable, resulting in "continual frustration" for all parties. He viewed his resignation as the right step to ensure a future for OBAR.

It seemed that for MDC, Preston was the better person to negotiate with. Around the time tensions were rising between Harrington and MDC's management, Don Wilson sent a message to James Preston marking it as "personal and confidential."[960] Addressing Preston as "our partner," the letter purported to "set down the major assumptions and conditions on which the Mead Corporation is supporting our effort."[961] Wilson wished to go over the heads of Harrington and

[955] MDC, Att: Chas. Shapiro, Don Wilson, by Bill Harrington.
[956] MDC, Att: Chas. Shapiro, Don Wilson, by Bill Harrington.
[957] Bill Harrington to Jim Preston, December 10, 1970, C Series, C5A, OBAR papers.
[958] Harrington to Preston, December 10, 1970.
[959] Harrington to Preston, December 10, 1970.
[960] Message, H. Donald Wilson to James Preston, November 19, 1970, C Series, C5A, OBAR papers.
[961] Wilson to Preston, November 19, 1970.

the others to talk directly with Preston. Perhaps he thought that Preston, as a senior partner, could relate to the pressures he (Wilson) was experiencing. Wilson was under pressure from Mead to show profitability, and he was operating according to a specific set of assumptions about the right course of action. The very first point read: "The MDC/OBAR system will be able to penetrate the legal market – and perhaps be profitable – only with high-speed terminal equipment."[962] In other words, the controversy over the high-speed terminals was a struggle over what values should drive the design process. Wilson assumed that profitability could only be achieved if the large law firms, perhaps impressed with high-speed terminals, were on board.

During the same period, Fitch McCabe wrote to Wilson.[963] At issue was MDC's marketing approach. She explained that MDC approached the legal community with a typical sales approach, which was ill-suited to purpose. A typical approach, she explained, was "to approach an individual with merchandise telling him how it can benefit him." In the case of OBAR, that meant MDC was marketing OBAR as a product that "will benefit an attorney economically." The problem was, she explained, that "the OBAR system really does nothing that is terrible unique from what the attorney himself is capable of doing." Sure, the system might do a more through or accurate and definitely more rapid job, but it will not help the lawyer to make more money. "This marketing approach, the approach to dollars and cents value, is inadequate," she concluded the letter.[964]

According to Fitch McCabe, MDC's marketing approach was not only unwise, but also a proven failure. She insisted that marketing OBAR called for an alternative approach, appealing to "the sense of professional integrity of the attorney and his sense of intellectual competence."[965] Lawyers, even if they were interested in economics, had a strong sense of professional dignity and purpose. Even an attorney did not see much point in using OBAR, "if it were demonstrated to him that he really had a professional obligation to use those tools which enable him to practice his profession, he would probably use the system anyway."[966] The

[962] Wilson to Preston, November 19, 1970.
[963] Diana Fitch McCabe to H. Donald Wilson, December 16, 1970, C Series, C5A, OBAR papers.
[964] Fitch McCabe to H. Donald Wilson, December 16, 1970.
[965] Fitch McCabe to H. Donald Wilson, 2.
[966] Fitch McCabe to H. Donald Wilson, 2.

approach that should be taken, wrote Fitch McCabe, was to appeal to lawyers' intellect, not their pockets. Selling a product to lawyers required identifying their uniqueness. The legal profession was not like any other profession. It should be made clear, she explained, that OBAR was "a tool which will enhance his stature as an attorney, a tool which will allow his intellect freer range and scope of research and ingenuity which will enable him to exercise those talents which set his profession apart from others."[967] As if the message was not clear, Fitch McCabe also added a more overt statement: "I think it is time that everyone involved with OBAR did some serious thinking into just what the system provides and what interest it serves."[968]

Wilson response arrived over a month later.[969] It was a brief letter, in which Wilson reported that Bob Bennett, Jerry Rubin, Bud Shapiro, and others "have all studied your letter with some care and feel that you make a very important point." The delay in response was due to "considering the best means of communicating this to our field force." The matter was communicated to them informally, and "soon formally." He thanked her for the letter.

In April 1971, Fitch McCabe published another article.[970] It was a short entry in an ABA publication that described the OBAR system, discussed the role of the organized bar, and explained OBAR as a service. Fitch McCabe did not spare her criticism. Under the heading "Who do you serve?," the longest in the brief entry, she spelled out OBAR's promise and the "erosion of the dream." "In its original form, OBAR was envisioned as a service to all members of the legal community, equally accessible to all," she wrote, but "OBAR in its present form does not fulfill that ideal."[971] The main reason for the failure was the high costs involved in developing a legal research system. "Although OBAR was established as a non-profit organization, it cannot operate as a charity," she wrote. Making the system more attractive and more sophisticated cost money. So did the computer equipment, communication devices, and

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[967] Fitch McCabe to H. Donald Wilson, 2.
[968] Fitch McCabe to H. Donald Wilson, 2.
[969] H. Donald Wilson to Diana McCabe, January 20, 1971, C Series, C5A, OBAR papers.
[970] Diana Fitch McCabe, "Automated Research: The Ohio Experience," *Bar Executive Key Handbook* (April 1971): 15-16, P Series, Folder P26, OBAR papers. It seems that Fitch McCabe either delivered the text as a talk at the Conference on Law, Libraries and Automation held in Chicago in March 1971. It appeared in the 45th volumes of *Chicago Law Library Bulletin* in full in June 1971. It received broader circulation as part of a Special Issue on Computer and the Legal Profession, published in June 1973.
[971] Fitch McCabe, "Automated Research: The Ohio Experience," 16.

computer time. As a result, "even on our very generous time-sharing terms, the OBAR system is beyond the reach of most lawyers." This problem, predicted Fitch McCabe, was a temporary one. The costs of computer time and computer hardware had already started declining and it was likely their decline would make the cost more attainable. The concluding paragraph was stark. Although it was directed to bar associations contemplating "a project with the potential of OBAR," it was also expressing the sobering experience of Fitch McCabe with OBAR. It read:

> When you undertake a project with the potential of OBAR, you will undoubtedly set certain goals for it. In most instances, you will not attain them. It will not be that you have failed, but only that you will expect too much from it. There is a natural euphoria which attends automated legal research. It will not equalize the abilities of all lawyers. It will not eliminate all the economic problems of the profession. It will not immediately put better legal service within reach of more citizens. But it is an important first step in the modernization of a profession that has too long depended on traditions that no longer meet the needs of society.[972]

Mead acquisition guaranteed OBAR/Lexis future at the same time as it led to OBAR's gradual decline. As Jerome Rubin, MDC Vice-President, put it, once Data Corporation was acquired by Mead, "the positions were reversed": Data Corporation went from being the contractor to being the principal.[973] As a large corporation, Mead was not interested in servicing the legal profession. Moreover, the results of the market survey it commissioned pointed to a profit if the system was turned into a national service. OBAR was able to raise the required money for the initial conversation, but it had struggled with financing since early in its operation.

The contract that Harrington helped negotiate in 1971 was the forebearer of OBAR's demise. OBAR and MDC finally signed a contract on July 7th, 1971. OBAR sold its rights to the software and the Ohio database to MDC in return for royalties of MDC's revenue.[974] In 1972,

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[972] Fitch McCabe, "Automated Research: The Ohio Experience," 16.
[973] Jerome Rubin, interview by Kathleen Carrick, July 12, 1993, P Series, Folder P67a, OBAR papers.
[974] Harrington, "A Brief History," 551-552. "Regular Meeting of the Board of Trustees of Ohio State Bar Association Automated Research," July 21, 1972. M Series, Folder M7, OBAR papers. The royalties differed based on the revenue. OBAR was to receive 10% of the first million dollars, 5% of revenue if the revenue was over 1 million, and 2% of revenue if it exceeded 3 million.

OBAR received advances in the sum of $143,000 and royalties in the sum of $14,260.[975] Out of the latter, $8,910 was applied to the interest that OBAR owed to MDC. In 1973, the advances totaled $267,980 and the royalties $30,232. $20,299 of this sum were applied to interest owed.[976] By the end of 1976, the total advances to OBAR reached over half a million dollars.[977] The accumulated royalties were in the sum of $108,613. At the end of 1981, the last year for which OBAR was entitled to royalties, the debt OBAR owed to MDC shrunk to $383,947, but was still beyond repayment. 1981 marked the last year in which MDC supported OBAR with advanced payments.

Asman was elected Executive director on January 15th, 1971.[978] Shortly after, the majority of OBAR's staff was reassigned, and OBAR's headquarters moved from Columbus to downtown Cleveland.[979] In the summer of 1971, Asman expressed his concerns over OBAR's precarious situation in a letter to Wilson.[980] Asman had hoped to get an additional $20,000 to cover OBAR's expenses. Wilson wrote back saying that royalty payments would only be made once their amount exceeded what was owed to MDC.[981]

In May 1973, Lexis became commercially available.[982] With 40 subscribers, coverage that included New York, Ohio, and the District of Columbia, and contracts with Texas and Missouri underway, it was celebrated in the pages of the *Wall Street Journal*.[983] In the span of three years, Lexis's subscriptions grew to 144 subscribers in New York, Ohio, Washington, D.C., Illinois, Missouri, Texas, Massachusetts, Pennsylvanian, and California.[984] By the end of the

[975] Mead Data Central, Advances & Royalties To OBAR, July 1, 1970 through December 31, 1972, F Series, Folder F13, OBAR papers.
[976] Mead Data Central, Advances & Royalties To OBAR, July 1, 1970 through December 31, 1973, F Series, Folder F13, OBAR papers.
[977] Mead Data Central, Advances & Royalties, (OBAR), July 1, 1970 through December 31, 1976, F Series, Folder F13, OBAR papers.
[978] Special meeting of the board of trustees of Ohio State Bar Association Automated Research (OBAR), January 15, 1971, M Series, Folder M6, OBAR papers.
[979] Harrington, "A Brief History," 552.
[980] R. J. Asman to H. D. Wilson, July 8, 1971, C Series, Folder C8, OBAR papers.
[981] H. Donald Wilson to Robert J. Asman, July 13, 1971, C Series, Folder C8, OBAR papers.
[982] Jerome S. Rubin and Robin L. Woodard, "Lexis: A Progress Report," *Jurimetrics Journal* 15, No. 2 (Winter 1974): 86-89.
[983] Business Bulletin: "A Special Background Report on Trends in Industry And Finance," *Wall Street Journal*, November 29, 1973.
[984] Mead Data Central, Inc., Number of Subscribers, February 1976, O Series, Folder O6, OBAR papers.

decade, Lexis had introduced its news research service, Nexis, and rebranded itself as LexisNexis; it expanded its service to the United Kingdom through a contract with the British publishing house Butterworth; introduced its UBIQ terminal, a dedicated LexisNexis desktop terminal engineered by Robert MacConnell and designed by Daniel J. Lewis of George Nelson & Associates.[985] Its sales topped $34 million and it earned $4.3 million in revenue in 1979.[986] By then, LexisNexis covered caselaw for all 50 states.

During this period, the tension between Mead Data Central and its main United States competitor, West Publishing Company, reached the courts. West, which itself entered the electronic legal research market with a competing service (Westlaw) in 1975, sued Mead Data Central for using its reporters "star pagination" in its database.[987] Mead Data Central countersued, accusing West of monopolistic practices.[988] They finally reached a settlement in 1988.[989]

In 1994, LexisNexis was acquired by the publishing conglomerate Reed Elsevier for $1.5 billion.[990] Two years later, West Publishing Company was acquired by Thomson Corporation, a Canadian publishing house (today's Thomson Reuters), for $3.43 billion.[991] Since the 1990s, both of the main legal information services in the United States have been owned by the two largest publishing houses. Lexis was bought out by the very business it attempted to disrupt in the 1960s. The 1990s also saw the beginning of a new full-text information retrieval system: the Google Search Engine, which ushered in a new chapter in the history of information technology.

[985] Bob MacConnell, interview with the author, April 16, 2024; "UBIQ Terminal," Smithsonian Learning Lab, https://learninglab.si.edu/resources/view/167409#more-info
[986] "Mead Embracing High Technology," *New York Times*, September 20, 1980, Late Edition (East Coast).
[987] Stephen Labaton, "Lawsuits Over Law Research," *New York Times*, April 20, 1988; *West Publishing Company v. Mead Data Central*, Inc., 616 F. Supp. 1571.
[988] Stephen Labaton, "Lawsuits Over Law Research," *New York Times*, April 20, 1988.
[989] Stephen Labaton, "Westlaw and Lexis Near Truce," *New York Times*, July 19, 1988.
[990] Sandra Sugawara, "Mead Selling Nexis/Lexis Operations," *The Washington Post*, October 4, 1994.
[991] Iver Peterson, "Thomson to Buy Legal Publisher In a $3.43 Billion Cash Accord," *New York Times*, February 27, 1996.

Conclusion: From Research to Search

> "The term 'computer-aided legal research' is perhaps a misnomer. It does not involve legal research as it is generally understood. It involves only search, namely the searching out of documents, be they cases or statutes, which may be relevant to the problem involved. The term 'computer-aided legal research' merely means a system of communication between the lawyers and the precedents upon which he has to rely. It takes the place of the lawyer getting up from his desk, going to a law library, looking through the printed indexes and digests, reaching up to the bookshelves, picking out those books to which he has been led by the indices and then leafing through those books to fund the case for which he is looking for."[992]

Writing in 1969, Thomas Plowden-Wardlaw, president of the Lawyers' Center for Electronic Legal Research, introduced the concept of "computer-aided legal information retrieval" to the readers of *Forum*, an ABA quarterly law journal devoted to insurance and torts issues.[993] According to Plowden-Wardlaw description, search was a subset of research. It was one step in the process. After completing the "search" step, described above in vivid terms, the "traditional methods of research" included a few more steps. "Having found those particular cases," wrote Plowden-Wardlaw, "[the lawyer] reads through, applies them to his problem, makes analogies and finally forms his individual judgment."[994] Electronic retrieval of legal information was part of "exactly the same procedure."[995] James Preston, OBAR's first president echoed the same sentiment when he said that the computer would "take the books down from the shelves and open them to the right pages."[996] Although books would be swapped with computers, the rest of the research "procedure" would remain the same.

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[992] Thomas C. Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," *Forum* 4, no. 4 (July 1969): 286-291, 286.
[993] Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval." The Journal was issued by the ABA Section of Insurance, Negligence and Compensation Law beginning in 1965. The journal's title was changed to *Tort and Insurance Law Journal* in 1985, and to *Tort Trial and Insurance Practice Law Journal* in 2002.
[994] Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," 286.
[995] Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," 286.
[996] "Computerized Law Research System Established by State Bar," *The Ohio Bar: Ohio State Bar Association Reports* 40, no. 5 (January 30, 1967): 135-136, 136.

Plowden-Wardlaw continued to outline "two basic approaches": human indexing and full text.[997] Focusing first on "Human indexing," Plowden-Wardlaw wrote: "this approach is really nothing more than the automation, by means of the computer, of the traditional methods of research."[998] The other approach offered something different. It consisted of putting into the computer "the full text of the source material." Then, the searcher would "frame" his question by selecting "various combinations of words and their synonyms" which "should appear in documents relevant to his problem."[999] While the first approach "automated" the traditional methods of research by digitizing an index, the second approach offered a new way to interact with court cases and statutes – with words selected by the searcher, not index categories prepared by a human indexer. Plowden-Wardlaw argued, then, that computerized (or computer-aided) search replaced one step of the legal research procedure, the search. The full-text approach, however, did not simply "automate" the traditional methods, but offered a new way to search.

At the heart of Plowden-Wardlaw's attempts to make sense of the new technology was a key question: how did this new technology relate to the existing, over-a-century-old practices of legal research? This dissertation aimed to describe the professional, social, and technological landscape that the new technology was to be integrated in alongside the conceptual, social, and technological work of developing it. In concluding the study, I discuss how making court cases into "information" was part of making search more trustworthy. I also explain the process by which labor and politics were erased from legal research.

The first aspect of the transformation entailed making court cases, statutes, and administrative decisions into information. Up until the 1960s, legal research "materials" were law books. Legal research manuals and courses introduced students to various types of law books. Mastering these types, their ways of production and uses, was part of legal research's instruction and practice. Court cases and statutes were inseparable from the law books in which they appeared. Although a case could have been reported in an official reporter, summarized and

[997] Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," 287.
[998] Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," 287.
[999] Plowden-Wardlaw, "Computer-Aided Legal Information Retrieval," 288.

categorized in a digest, and referred to in an encyclopedia or treatise, each instance of the case was treated differently. There was no sense in saying that these various books contained the same information, since the type of law book in which a description of the case was contained was what determined its treatment. A report was considered the most accurate account, but it was still "a report" of the court's opinion. A case had to be read and understood in context. Its authority had to be deduced; it was not given.

The developers of information retrieval technologies treated legal cases as "information" or "text." To them, there was no substantial difference between a work of literature, a legal case, or a report. This idea was expressed most visibly in the push toward "end-users" and the purported elimination of subjective intervention in the process of legal research described in chapter four. In the age of print, there was no way to conduct legal research without mediation: every law book (including court reporters) was compiled and edited by someone. At least at first, when OBAR pioneers applied information retrieval terms to legal materials, it did not go smoothly. It was not clear what "information" was mapping onto, who was doing the intervening, and where it was taking place. Gradually, legal cases in official Ohio reporters populated the electronic database. Even though the conversion process required processing these cases and segmenting them in a standard way, the result was presented as free from intervention. The term "full text" search conjured an image of an exact replica of the text in court reports, "information" independent of its medium.[1000] In reality, cases became information with their inclusion in the computer. This was not a matter of conversation, but of production. As part of the black-boxing of legal information retrieval technologies such as OBAR/Lexis, any traces of labor were removed.

While it was not true that a "full text" search system was a system devoid of intervention, its description as such did important work. As chapter 4 shows, it supported a bifurcation between computers and people. Using the criterion of judgment, people were moved to one side and labeled "subjective," while computerized systems were moved to the other and labeled "objective." Making court cases into "information" that could be converted from one medium

[1000] The idea that "Information" or "Data" could be devoid of intervention or "raw" was analyzed and criticized in *"'Raw Data' is an Oxymoron"*, ed. Lisa Gitelman (Cambridge: MIT Press, 2013).

(book) to another (database) was part of touting the computer as a neutral medium. If the information that appeared in the database was devoid of intervention, if it was "the same" as the information contained in the volumes of court cases, there was no reason not to trust it. In this way, trust was turned into a non-issue: the system was only reflecting, not altering, the content of law books.

The second aspect of the transformation was the delineation of legal research into a stand-alone skill. As Chapter 3 demonstrated, although studies of the legal profession and of lawyers' work existed before the 1960s, they did not treat "legal research" as a central object of interest. Legal research was one part, and not a particularly voluminous or interesting part, of legal practice. Sociological studies from this period were more interested in capturing the variation in law practice, the growth of large law firms, and national trends in lawyering and jurisprudence. And, as Chapters 3 and 4 demonstrated, part of the automation of legal research was the conceptual work of making legal research into a discrete thing that could be studied, defined, and divided into tasks fit for automation.

A few factors combined to make legal research into a distinct aspect of legal practice. The rise of paralegals in the 1960s and 1970s (discussed in Chapter 2) contributed to making legal research a discrete task that could be delegated. It also introduced the distinction between mechanical and substantial tasks in legal practice that was later applied to the division of labor between machines and humans. With the increased interest in automating legal research in the 1960s, the first studies that focused on legal research appeared. These studies found that legal research was part of a social and professional system. Legal research fit into a professional training and evaluation system in which junior associates, law clerks, and paralegals learned the ropes of the legal profession while supporting the work of a law firm. The studies also found that legal research was an extremely varied component of legal practice. It was one of the least lucrative aspects of legal practice and depended on lawyers' work arrangements, experience, and location.

Making legal research into search transformed the mechanics and the substance of legal research. The relevant "expertise" came to reside in the individual lawyer. With the new focus on

intermediation (and its removal), people who once supported legal research and shouldered some of the analytical and physical work it entailed, were now cast out of the process. The "end-user," the lawyer, became the expert and the legal question became "his" question." The lawyer had "information needs" that a computerized system could address. While legal research fit into a larger social and professional system in which "expertise" was learned, legal search was a stand-alone skill for which "expertise" was limited to a specific case or question.

The result was a reorganization of the division of labor in the law office. Comparing the findings of the bar associations' surveys from the 1960s and 1970s with later studies, undertaken in the 1990s, shows that legal research involved the transfer of labor from law firm staff to the lawyer.[1001] The computer did not replace legal publishers, librarians, secretaries, and assistants. It simply transferred parts of their work to to the lawyer. If lawyers in the 1960s could rely on West's categories, even though they were not perfect, lawyers in the 1990s had to sort through an endless number of results by themselves. On average, the amount of time spent on legal research by lawyers grew over the years.[1002] Human legal editors still categorize and summarize legal cases, including in Lexis.[1003] Legal librarians are still employed in many law firms, law schools, and corporations. Paralegals still conduct a portion of legal research and technical support staff

[1001] In 1995, Penny Hazelton, Morris L. Cohen, and Patricia DeGeorges ran a survey that aimed to update the findings of studies of lawyers' legal research habits from the 1960s. They found that most attorneys preferred to do research themselves rather than delegate their research. Morris L. Cohen, Patricia DeGeorges, and Penny Hazelton, "Legal Research Methods in Today's Legal Profession: Highlight of Preliminary Survey Data," National Conference on Legal Information Issues, June 17, 1995, Box 57, Folder "Research Habits of Lawyers: Correspondence, references, and data, 1993-95," Morris L. Cohen Papers.

[1002] Lawyers reported to spend 18% of their time on legal research in 2022. Experienced lawyers reported to spend over a quarter of their time on legal research. Studies from the 1960s described in Chapter 3 found that lawyers spent an average of 15-16% on legal research, albeit the sample was smaller than the ABA's national survey in 2022. American Bar Association, "Legal Technology," Profile of the Legal Profession 2023, https://www.abalegalprofile.com/tech.html.

[1003] Despite the early rhetoric of eliminating categories (and thus editors), Lexis did not remain "editor free" for long. In 2000, it began publishing "headnotes" for its cases that were written by Lexis editors. Randy Forman, "Digests, Headnotes, and Annotations: The Most Useful Research Tools," *Michigan Bar Journal* 82, no. 3 (2003): 50-51, 50; Paul Norman, "The Big Match – Lexis v Westlaw," *Legal Information Management* 4, no. 2 (2004): 93. In 2000, headnotes were added systematically to new and old cases. Earlier sources reported that only some cases in Lexis contained headnotes. James A. Sprowl, "Computer-Assisted Legal Research--An Analysis of Full-Text Document Retrieval Systems, Particularly the LEXIS System," *American Bar Foundation Research Journal* 1976, no. 1 (1976): 184. Headnotes were considered copyrighted material (being the result of the reporter's "work") and thus could not be copied from official reports. *Callaghan v. Myers*, 128 U.S. 617 (1888); *West Pub. Co. v. Mead Data Cent., Inc.*, 799 F.2d 1219 (1986).

still assists with access and "search framing." The publishing landscape has changed, but legal textbooks and treatises are still being published.

The politics of legal research were removed, too. As Chapter 4 and Excursus 2 detailed, the initial problem that automating legal research was meant to solve was inequality and access to justice. Unequal access to law books meant that lawyers in larger law firms were better equipped than lawyers who were solo practitioners or practiced in small law firms. This translated into unequal legal services. In addition, the inefficiencies of legal research, namely the physical work involved in working with many types of books, resulted in higher bills and served as an impediment to wider access to the law. In the process of "automation," the problem to be solved changed from "inefficiency" to "intermediation," and the political implications of legal research were erased. Legal search became a stand-alone skill devoid of any political ramifications.

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