

Case Study

Digitizing History

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Abstract: Funded by grants from the Ford Foundation, IBM, and Virginia Commonwealth University, VCU has built the Multicultural Archives database, principally comprising documents borrowed from the African-American community. The documents are scanned, processed by optical character recognition technology, and stored on optical disks. By using this technology, we have gained access to materials privately held and seldom shared, since owners of the documents usually will not donate them. To help publicize the project and encourage public participation, we organized a Black History Archives Project Advisory Board, working with Virginia Union University (a nearby African-American institution) and the Black History Museum and Cultural Center of Virginia. The project owes its success to resolution of interdependent political and technical problems.

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COMPUTERS HAVE VIRTUALLY revolutionized the work and operations of libraries, at first in the area of creating and providing bibliographic records but more recently in providing full-text equivalents of books and other printed materials.¹ Scanning, storage, and optical character recognition (OCR) advances in the past few years make their use practical in archival operations as well.² This article looks at how these relatively new technologies helped to win the African-American community's support for the MultiCultural Archives, an electronic manuscript collection.

The Challenge: Building the MultiCultural Archives

A strong and abiding belief in the importance of preserving and sharing our common history justifies the extraordinary efforts archivists make to find, preserve, and make available documents for research. Until fairly recently, traditional interpretations of modern national history largely excluded people of color. Archivists now need to incorporate the documents held by underrepresented individuals and groups so that their history, too, can be correctly and fully told, even though many institutions seeking to bring the documentation of minorities into their collections find their overtures viewed with understandable skepticism. The experience that Virginia Commonwealth University (VCU), in Richmond, Virginia, has had in working to identify, preserve, and share the records and papers of organizations and individuals in central

Virginia's African-American community is instructive. Technology played a critical role in the process.

The Setting

As in many other U.S. cities, the years following The Second World War brought striking and irreversible changes to Richmond. Returning African-American veterans no longer accepted status as second-class citizens, and they resumed their struggle for civil rights and equality with renewed determination. Voter registration drives and legal assistance from key civil rights lawyers gradually transformed Richmond. After massive resistance failed to prevent the integration of Richmond's schools, much of the white population fled to the suburbs. Political power and responsibility for governing the city shifted to the African-American voting majority.

Virginia Commonwealth University is the largest institution of higher education in Richmond. Like the city, it reflected the prevailing social ethos for many years. That ethos was segregationist, suspicious of civil rights activists, and slow to accept a new reality. In short, the University was no friend to the African-American community, and when its library sought to collect materials documenting the history of that community, few African-Americans cooperated. Instead, those who were considering donations of manuscript materials looked to Virginia Union University, a historically black college located within walking distance of VCU.

Virginia Union lacking funds, invested little in creating an archives for African-American materials. Even so, it had acquired some significant collections because many African-American leaders had graduated from Virginia Union. Governor L. Douglas Wilder is an alumnus, and Virginia Union has made a special effort to develop the Wilder Collection. Generally, however, Virginia Union has not aggres-

¹Anne R. Kenney and Lynne K. Personius, "Joint Study in Digital Preservation. Report: Phase I (January 1990–December 1991). Digital Capture, Paper Facsimiles, and Network Access. The Cornell/Xerox/Commission on Preservation and Access.

²Anne R. Kenney, "Preserving Archival Material Through Digital Technology; A Cooperative Demonstration Project (October 1992–March 1993). New York State Program for the Conservation and Preservation of Library Research Materials.

sively pursued collections from the African-American community.

Another important African American institution in Richmond, the Black History Museum and Cultural Center for Virginia, Inc., had an interest in providing a home for materials. Although announced in 1981, the Black History Museum existed only on paper for many years, having neither facility nor staff. After a decade-long effort, its supporters in 1991 acquired sufficient funds to refurbish a donated building, and they hired an executive director to raise funds for the museum's successful continuation. The Black History Museum, lacking appropriate space and staff, has concentrated its efforts on acquiring materials suitable for exhibits, not on collections to support research.

In 1987 the Special Collections and Archives Department (SCA) in VCU's James Branch Cabell Library began a campaign to bring in records and papers that focus on the post-Second World War development of the Richmond metropolitan area. Building on several extant collections, the newly established Richmond Area Development Archives (RADA) grew fairly rapidly and included the papers of key leaders and organizations. But with very few exceptions, these collections came from the white community. African-Americans who were approached invariably cited loyalty to Virginia Union (hoping that university would be able to absorb their donations) or said they had decided to wait for the Black History Museum to acquire collecting interest and capacity. Clearly, the history of Richmond and its surrounding counties contained in the RADA collection would be incomplete without the African-American presence, but VCU's past handicapped the collecting effort.

The Ford Grant and the MultiCultural Archives

In 1990 the Ford Foundation invited VCU to compete for a grant under a special

initiative aimed at improving campus race relations. This grant competition opened an opportunity for VCU to bring in materials from the African-American community. A member of the teaching faculty and I developed a proposal entitled "Illusion vs. Reality: Teaching and Learning Cultural Diversity Through Archives." This proposal called for twelve courses designed to correct traditional interpretations that generally ignored or distorted the contributions of people of color. Whenever possible, faculty funded by the grant would require their students both to use and to locate source materials for the MultiCultural Archives which would be housed in the library. Better documentation and understanding of regional history would lay the groundwork for improved racial relations we argued. It was up to the SCA to develop a repository of source materials to support that goal.

The proposal outlined a three-step program to bring in collections, principally from African-American sources. First, it called for a "manuscript map" listing organizations and individuals for the central Virginia area and the materials that they held. Then SCA staff would identify selected groups and individuals from this inventory and ask for access to their papers so that a guide could be prepared. Written according to the traditional model used by many archivists, the guide would include series, folder headings, and a brief history of each group or individual participating in the project. Both the inventory and the guides for selected collections would be placed into a database. From this smaller group we planned to ask some organizations and individuals to donate their files or to lend them for microfilming.

Politics and Technology

VCU received in August 1990 a two-year grant of \$100,000 from the Ford Foundation for its "Illusion Versus Real-

ity” proposal, half going to the library. Within weeks of the award, VCU’s provost announced a desire to see this project, as well as others on campus, explore the use of advanced technology. He asked that we develop a proposal that would interest IBM. I discussed the project with an instructional designer, who suggested that we substitute scanning for microfilming. Besides supporting research, the images in the subsequent database also could be downloaded, reformatted as a multimedia presentation, and used in classrooms or other group settings. To facilitate retrieval of the materials in the database we would use keywords generated by optical character recognition. For storage and dissemination, we proposed a WORM (write once, read many) optical solution. The provost arranged an introduction to the local IBM representative to discuss options. This inaugurated a year long series of meetings designed to solidify IBM’s support and identify hardware and software that would be needed.

Before the technical discussions began, we took our first steps toward gaining support for the project in the community. Working through the University Relations Office we arranged for an interview with the press to discuss the grant and our plans for establishing the MultiCultural Archives to support teaching and research. The subsequent article in the *Richmond Times Dispatch*, “Illusion vs. Reality—VCU Duo to Probe Area Black History,” with a photograph of two white faculty, clearly illustrates the problem we faced. To the African-American community, the proposed MultiCultural Archives signaled that a big white institution was bent on using its superior resources to grab documents for the benefit of white scholars.

In developing our grant proposal, we had pointed to the importance of our project as a bridge-building tool that would help improve VCU’s relations with Richmond’s African-American community. At

our request, the president of VCU invited African-American leaders to a meeting at which VCU would announce that it had won the grant from the Ford Foundation and that VCU valued this opportunity to extend the hand of friendship. Building on IBM’s apparent interest in our project to establish a MultiCultural Archives, we invited their local executives to attend. The Ford Foundation sent the national director of the race relations initiative to speak for the project. But few African-American leaders came; those who did came out of respect for the president and exhibited little interest in helping the university build the MultiCultural Archives.

Building Bridges at Home

We quickly recognized the width of the gap between the ideal of wanting to acquire source materials that would correct history and (it was hoped) contribute to improved race relations and the reality of working within the structure of a community suspicious of VCU’s intentions. At the outset no one in the African-American community, not even the black faculty at VCU, supported the effort. Lacking source materials available for teaching and research use, the enterprise would come to an ignominious end. Clearly, VCU needed allies and partners who could open the closed doors. That required, at a minimum, support from Virginia Union University and the Black History Museum.

Before we could reach outside, we had to strengthen our base within VCU and win support from our own African-American faculty members who had organized into the Black Education Association (BEA) at VCU, after struggling for years to gain a voice in university affairs. The one BEA member who had participated in the grant application by submitting a course proposal had retired soon after teaching it; others had felt excluded from the entire process, probably seeing it as yet one more instance

of their isolation. After some persuasion, BEA's president agreed to call a meeting to discuss the Illusion vs. Reality project. The few members who came confined their assistance to providing names of persons in the community who might be interested. Despite falling considerably short of our hopes, even this limited help provided a wedge to pry open a few doors and further publicize the MultiCultural Archives effort.

Technology to the Rescue

Many members of the African-American community recognized that standard interpretations generally slighted their community's role in history, and they wanted historians to acknowledge their contributions. Typically, this has meant turning over their papers and records to an archives or repository. Many African-American have been reluctant to take this step since the institutions attractive to them lacked the means to process and store their contributions. As a result, they have held on to their materials and much valuable information has remained inaccessible to scholars and the public. The recently published (1992) *Guide to Afro-American Sources in Virginia* demonstrates the Richmond black community's reluctance to open papers to scholarship. Clearly the most comprehensive effort to date to categorize information about black history holdings, it is equally clear that most of the documents cited in it were donated by white individuals and organizations to white museums and historical societies. To reach the African-American community, we would have to provide something other than the traditional safe home for their donated documents.

As the discussions with IBM and other technical experts continued, we slowly came to see that scanning technology provided the key to gaining the support we needed. Scanning would make it possible

for document owners to share the information contained in the documents without having to relinquish their ownership. But we had no audience—African-American faculty at VCU had offered tepid support and our efforts to reach the broader community had failed. We therefore turned our attention to reaching our counterparts interested in preserving history: the library at Virginia Union and the Black History Museum. By offering to share the results of the scanning technology with them, we could turn competitors into partners. And we needed them not only to reach those who held materials appropriate for the planned MultiCultural Archives, but also because we had to show IBM that we had African-American support for the project.

From October 1990 through November 1991, IBM assisted in planning a configuration of equipment and software required for a large-scale scanning, OCR and storage project. Neither the library automation team nor the campus computer staff had experience with imaging technology. The local IBM representative could comment with some knowledge about the various models of computers, monitors, and printers. He knew little about scanners and optical character recognition, but he had contacts who serviced the imaging and OCR requirements of local businesses.

Scanners and OCR do quite well with the documents typically used in the business world: fresh, with clear typeface, a relatively small number of fonts, and generally good contrast. Like other archival material, documents for the MultiCultural Archives were likely to be faded or to have been damaged in some fashion through the years. They would include a large but unknown number of fonts, photocopies of documents, newspaper clippings, programs, and pamphlets. In tests the scanning systems recommended by vendors failed to provide reasonably good images of selected documents drawn from existing manuscript collections. Optical character

recognition rendered largely unreadable text.

By the spring of 1991 we had found a solution to the scanning problem. The Virginia State Library and Archives had previously implemented a large-volume scanning project to preserve deteriorating photostatic copies of county records. The director of the project recommended consulting experts at Information Processing Technology, a company in northern Virginia that had developed a Scan Optimizer to enhance the electronic image of scanned documents. The State Library had used the device with some success. In an earlier test conducted by the National Archives the Scan Optimizer had proved to be invaluable in providing readable images.³

Gaining Allies

While the search for suitable technology continued, we accelerated efforts to win Virginia Union University's and the Black History Museum's support for the Multi-Cultural Archives project. The executive director of the Museum agreed to join with VCU and Virginia Union to prepare a videotape discussing the project. That tape was provided to IBM as evidence of support in the African-American community. I continued to meet periodically with the director of the library at Virginia Union, and through her was able to reach the chairman of the board of directors of the Black History Museum, who was also the chancellor of Virginia Union. He appointed one of his board members, the Virginia State librarian, to investigate the project and prepare a recommendation for the board's review.

Political progress depended heavily on a technological solution. To deliver the tech-

nical and logistical support promised in the proposed agreement with Virginia Union and the museum, VCU needed IBM's equipment. IBM would not supply that equipment without evidence that the African-American community supported an electronic archives. Seeing little movement, Virginia Union, the museum, and IBM stalled. While IBM waited, we turned back to the Ford Foundation, our original grantor, for an alternative to break the deadlock.

To review the status of the 19 projects it had funded, the Ford Foundation had decided to hold a conference where grantees would report on their successes and failures and had invited applications for proposals for a two-day meeting. VCU submitted a winning proposal, and the national director of the race relations initiative came to Richmond to make preparations for the conference. While he was in Richmond I asked permission to use money that in the original budget was designated for microfilming and apply it instead to the purchase of hardware and software from a new line to be called "reproduction of materials." The foundation decided to allow the modification and, citing Ford's willingness to support the scanning/OCR effort, I gained additional funding from the University. By combining Ford and VCU money we could acquire the minimum equipment and software needed for the project. Our discussions with Virginia Union and the Black History Museum now rested on the solid ground created by ensured technical support.

As the technology aspect of the project began to come together, both the Black History Museum and Virginia Union University signed an agreement with VCU committing them to the project until August 1992. Materials could be donated, deposited, or loaned to any of the three signatories. In all cases, VCU would use OCR technology, scan and store the documents on the MultiCultural Archives da-

³National Archives and Records Administration. Archival Research and Evaluation Staff. "Optical Digital Image Storage System." Project Report. March 1991.

tabase. VCU would provide all necessary technical and logistical support; the museum and Virginia Union would assist principally by providing an entry into the African-American community. Once a database had been developed, its contents would be shared with Virginia Union and the museum.

It then remained to decide on the scanner, software and document management system. Experts at Information Processing Technology had recommended that VCU put together a system drawn from hardware and software available in the market, rather than purchase a complete package. Using components provided more flexibility and allowed the project to take advantage of hardware and software improvements in this rapidly changing field. For help in identifying software, we consulted a local company that specialized in scanning, OCR, and document management systems. In the meantime, our IBM contact continued to send encouraging messages while IBM headquarters studied the proposal. Finally, in September 1991, IBM signed on.

Progress: Reaching the Community

Meanwhile the MultiCultural Archives effort floundered. A prominent African-American businessman, and member of VCU's Board of Visitors, had donated some personal papers in June 1991, but his was the only collection in the MultiCultural Archives after months of efforts to attract support. VCU's agreements with Virginia Union and the Black History Museum, while of symbolic importance to IBM, had little influence on the African-American community as a whole. Even as IBM committed to the project, failure loomed. Without support in the African-American community, the planned electronic archives would fail, no matter how much technological support was offered by the Ford Foundation, IBM, and VCU.

We hoped that if one person or group would participate, others would follow that example. One of the organizations whose help we needed was the Southern Christian Leadership Conference (SCLC), which had engaged in a running battle with VCU over its allegedly discriminatory employment practices and which had, in several instances, brought charges against the university in court. The director of VCU's Equal Employment Opportunity (EEO) office, who had represented the university on those occasions, knew the SCLC executive director and could provide his telephone number, possibly an introduction.

The EEO director offered more. VCU, like many other institutions of higher education confronting a dismal fiscal reality, had offered early retirement to selected faculty and staff. The director was among those who had taken that opportunity. Recently retired and strongly concerned about the state of African-American history, he volunteered to organize an advisory committee that included some of the community's most important and visible leaders. Among them was a revered civil rights lawyer, who at 84 still came to his office every day. Another was a member of VCU's dental school faculty, widely respected for his knowledge of local black history. The library director at Virginia Union and the manager at the Black History Museum joined as well.

The advisory group decided to narrow the scope of the MultiCultural Archives plan and adopt a name that reflected its principal focus. Henceforth, it would be known as the Black History Archives Project (BHAP). Richmond's mayor hosted a press conference at Virginia Union University to announce this important new initiative. The vice-president of Virginia Union and the president of VCU spoke out for the project. The BHAP board prepared a letterhead that listed, in addition to members of the advisory committee, a who's who of supporters from the African-Amer-

ican community, including SCLC's executive director.

While the project limped along, help came from another quarter. A representative of the Schomburg Collection of New York Public Library had approached Richmond's African-American churches about their participating in a national microfilming project funded by a grant from the Eli Lilly Foundation. The Schomburg sponsored a meeting in Richmond to ask for their cooperation and participation. Of the thirty churches represented at the first meeting in the spring of 1991, only eight remained in October. The church historian at Sixth Mount Zion Baptist Church had volunteered to coordinate the local effort, and he agreed to let me attend the October meeting on behalf of the Black History Archives Project. There the church representatives decided that the local microfilming effort would operate under the umbrella of BHAP. After the church records had been microfilmed, they would be sent to VCU for scanning as well. To ensure good communication and a continuing contact in the church community, I invited the Sixth Mount Zion historian to join BHAP.

Progress: A Configuration Found

In the meantime, the search for a technical solution continued. After IBM committed to the project, it began to exert more control and required a review of the proposal by its experts at the Institute for Academic Technology (IAT), located in North Carolina's Research Triangle. Shortly after receiving IAT's recommendations, IBM opened negotiations with VCU on a proposed joint venture agreement. After the lawyers agreed on terms, VCU signed the contract with IBM. In February 1992, the university issued a contract for installing and supporting an imaging system built around IBM's donated hardware and software. Red tape and other bureaucratic requirements delayed installation until May 1992.

Plans for building the MultiCultural Archives database rested on two fundamental principles: as little human intervention as possible, and stress on production rather than perfection. Student employees would prepare documents for scanning and would operate the scanner. The document management software would fully automate the remaining steps of OCR, keyword indexing, and storing the database. Efforts would be made to provide a good image for OCR, but there would be no editing of the resulting text files—editing would have impeded production. This would have an unknown impact on keyword retrieval, but researchers would still be able to call up an alphabetical listing of folders and, by browsing through them, access a given document.

Technical Problems Appear

Scanning began in the summer of 1992. The first file added to the database was the donated collection of a prominent African-American business and civic leader who serves on the university's Board of Visitors. As the process of building the database began, we quickly learned the weak spots in our system. We solved scanning problems with relative ease; OCR flaws created a serious bottleneck that threatened the project's success.

Both political and technical factors required that images, even without their text-file equivalents, be written to the WORM drive for storage. To maintain hard-won credibility in the African American community, the SCA had to maintain a reasonable turnaround on the borrowed materials. The project featured a new technology and that, coupled with historic reluctance to share privately held information, required that SCA strictly adhere to its promises. Borrowed documents could not be stored indefinitely while the search for an answer to the OCR problem continued. They had to be scanned and returned.

The document management system requires a continuous flow. Ideally a document is scanned, put into OCR, indexed, and stored, in that sequence. The image and the OCR-generated text file are stored together. Since retrieval brings both, it is important that they share the same space on a WORM cartridge. Separating them seriously degrades document retrieval. Hard-drive capacity becomes critical when scanned documents are held by the system for an extended period; too many unstored images will cause a system crash. Images of scanned documents had to be swept from the hard drive for storage on the WORM cartridges. Later, to bring the image and the text into juxtaposition on the same cartridge, thus immeasurably accelerating the retrieval process, we had to copy the previously stored images, transform them into a text file with the OCR program, establish a list of keywords, and load the data onto a new cartridge. This process took months.

Political Setback

Aware of the importance of publicity for the MultiCultural Archives Project (the overall goal, of which the Black History Archives Project was the chief ingredient), the Advisory Board continued to seek opportunities for press coverage. Working with VCU's University Relations Office, I arranged for articles in several campus publications, one written by the editor of the university's official newspaper, *VCU Today*, the other in the student paper, *Commonwealth Times*. I wrote a fairly lengthy article for another VCU publication, *VCU Teaching* and, for the *Chronicle of Higher Education*, a brief notice that appeared in the technology section. Staff in University Relations decided to build on this and arranged for an article about the MultiCultural Archives to be published in the *Chronicle*, again in the technology section. Unfortunately, the article failed to mention

the role played by the Black History Museum and Virginia Union University, a shortcoming soon brought to my attention by persons in the African-American community. The omission created the impression that VCU had deliberately slighted its partners' contributions in the common effort to build the electronic archives. Relations cooled perceptibly, and a year would pass before they improved.

Efforts to Reach Churches

The church has been, and is, the single most important institution in the African-American community. Richmond alone has more than one hundred black churches, many of them long established, with a rich collection of documents and records. The historian from Sixth Mount Zion and I began visiting churches on Saturday mornings. At each stop we discussed the importance of preserving their materials, after which I demonstrated the database. I had downloaded some portions of the database and put them on a portable computer to let church representatives (usually members of the local history or education committee) see what the images looked like and how they could be retrieved.

After five such trips I recognized that my discussions of the wonders of the technology and the resultant demonstration to a few individuals in their churches was bringing no converts. My demonstrations of a sometimes daunting technology not only failed to persuade but probably diverted attention away from the goal of enlisting their participation. Also, since my board member and I had to coordinate our weekends with the availability of various history committees at churches we wanted to visit, the meager fruits of our complicated efforts hardly seemed worth the effort. Clearly, we needed another approach.

Taking advantage of the upcoming observance of Black History Month, the church historian on the board and I organ-

ized an interim measure—a workshop on preservation, which was advertised in the *Good News Herald*, a local weekly paper that features church news and is widely distributed in the African-American church community. For this event we got support from three sources. The Anacostia Museum in Washington, D.C. loaned a copy of a video on church preservation. The local chapter of the African-American History and Genealogy Society helped to plan the meeting and issue invitations. Virginia Union University provided the meeting space. The preservation librarian from VCU spoke at length about the importance of physical preservation of church records. I spoke about the option available through the Black History Archives Project. The workshop brought a few more participants into the project, but it was clear that we needed something more effective.

The Black History Archives Project Video

Our solution was to develop a video about the Black History Archives Project, addressing the importance of saving and sharing information and touching only briefly on the technology. The video features prominent members of the African-American community discussing the importance of the project and calling for its widespread support. An African-American anchor man at a local television station narrates the program. The video has been distributed freely throughout the state on request and has already resulted in some new additions to the database. In one case I took the video and a player to the home of a 94-year-old man. Persuaded both by the video and by his daughter (a retired secretary from Virginia Union who earlier had provided materials for the project), he has decided to make his papers available for scanning and addition to the database. The video also helped to persuade the pastor and

history committee of a church in Norfolk, in Virginia's Tidewater, several hours driving time from Richmond.

The video has also been useful in opening avenues to other cultures. Since its inception, the MultiCultural Archives has sought materials from all people of color. The Latin American segment of the Richmond area population has been growing steadily. Using information from *El Sol*, a Spanish language weekly publication, I contacted the chair of the Richmond InterCultural Council. Through him I reached my first Latin American volunteer, a Peruvian working at a local bank. She volunteered to translate into Spanish the brochure we had developed about the MultiCultural Archives and gave me the name of a local Cuban businessman, whom I later met in his home. When he saw the video on the Black History Archives Project he recognized the need for a similar project for Virginia's Hispanic Americans. He has since volunteered to set up an advisory committee that will include the editor of *El Sol*.

Summing Up: Progress and Problems

The database is now over 20 gigabytes. Most of the materials come from the African-American community and provide a rich supplement to local and regional history. Now that the database has reached critical mass, I have begun to create a market for it. At the university, I have reached the various faculty members whose courses could use the materials in the MultiCultural Archives. VCU also has listed on a library Gopher a guide to each collection in the database. To reach audiences lacking access to the Internet, I and my partners at the Black History Museum and Virginia Union University met with a representative from the Virginia State Department of Education to discuss possible distribution of a CD-ROM version to secondary schools and libraries.

While knowing firsthand the meaning of "bleeding-edge technology," the Black History Archives Project generally has succeeded. The proposed manuscript map exists in a database and is expanding. Digitization has provided a way to overcome the natural reluctance of those possessing information to share it. Instead of having to surrender them permanently to an archives or repository in return for guaranteed preservation and access, BHAP participants can share in the project by lending, for a relatively short time, their precious materials. After three years of effort, a growing network of supporters stretches from Washington, D.C., to Norfolk, and beyond. Researchers now have access to many formerly hidden pockets of history in the African-American community. The MultiCultural Archives recently has expanded to include Richmond's Latin American community. Other minorities will be invited to participate. Expanded public access to the database will soon be a reality.

Although this approach does not solve all of the problems repositories normally face, it does eliminate some of them. It is still necessary to persuade a reluctant community to share information, but being able to offer a technological option helps. The work of organizing materials for scanning (such as removing staples and paper clips) is no different from the usual preservation steps. Files do not have to be shuffled around to fit series. Refoldering is unnecessary. Scanning is somewhat labor intensive, although use of an automatic document feeder speeds the process considerably. Some kind of a guide, although perhaps less detailed, is still needed.

The important differences are that since materials are borrowed, scanned, and returned, the institution incurs no expensive storage, retrieval, and reshelfing costs. Materials do not have to be paged. The same materials can be used simultaneously by multiple researchers at widely scattered

sites. Of equal importance, easily accessible source materials will be used freely; archives and manuscript repositories, because of their digitized holdings, will be positioned to play a more significant role as information providers.

This technology also has its down side. OCR, although steadily improving, can be wildly inaccurate. Upgrades and maintenance on the document, scanning, and optical storage components can be expensive, but once committed to digitization an organization cannot turn back. Critics also point to the unproven conservation record of digitized files. The discussion seems irrelevant because long before the data might degrade, they will have to be recopied to another format to keep up with the changing technology.

More troubling are legal issues. Copyright and privacy questions have long plagued archivists seeking to develop traditional collections. Generally these issues are dealt with via the deed and deposit agreement. Nonetheless, the frequency with which articles appear in the professional literature and the number of sessions devoted to the topic at professional meetings suggest the degree of confusion and apprehension that yet surround it. Scanning introduces a new twist on an old problem.

The arrival of materials from the Southern Christian Leadership Conference forced the archives to develop a policy to cover copyright and privacy issues in an electronic environment. SCLS's executive director, understanding the importance of making this treasure trove of civil rights information available for scholarly research, had turned over 25 file boxes of records. Some of the material included case files that identified individuals by name. Could this information be made available to the public? If so, under what circumstances? The digitized files would be accessible through computers, eventually through the Internet, and because of keyword retrieval, accessible at a depth never

before possible. The ability to share information fully had been used as an argument to persuade the community to back the Black History Archives Project. That seeming advantage now posed a threat. Review of each document contained in the 25 file boxes would impose an intolerable burden. And who would decide—and by what criterion—the files that could be scanned?

I referred the problem to the VCU counsel, who, after consulting a colleague in the state attorney general's office, advised that contributors to BHAP be required to sign a form that described the nature of the project. Participants sign a witnessed statement that they understand that the information in the database will be open to all who have computer access, that it will be available in depth because of keyword retrieval options, that placing the scanned documents in the database constitutes publication, and that for purposes of this project they are conveying copyright to VCU, while retaining the right to withhold permission for any subsequent publication of the files they have made available.

Even so, copyright—and to a lesser extent, privacy—remains a potential problem. Our laws automatically assign copyright to the creator of a document at the moment of creation. Without the express permission of the holder of copyright, nothing can be published. Normally, this involves traditional print publication. Since dissemination of the text and images in the database is deemed to be publication, special arrangements such as signed releases from contributors are necessary to accommodate the law.

However, the courts have ruled that physical ownership of a document does not convey copyright; it still remains with the creator, whose rights to privacy must be protected. Thus, a researcher wishing to write a book or article that included, for example, excerpts from a collection would need to negotiate permission from the holder of copyright to include them in the

published work. Authors customarily do this for traditional publications, but a scanned collection, such as that shared by the SCLC, consists of huge files that include documents received from hundreds of persons over many years. By the strictest interpretation, very few materials—with the exception of documents created by SCLC's executive director (owner of the physical SCLC files)—contributed to the MultiCultural Archives could be scanned and put into the database (i.e., published) without obtaining a separate agreement from the author of every document in the file.

If this view of the law were to prevail, scanning much of the material produced in the business world also would be illegal. For instance, a growing number of firms scan incoming mail and distribute it electronically to the appropriate work groups. Records management, which also has embraced scanning technology, would be jeopardized. Because the copyright remains with the person who created the document, scanning and dissemination technically violates copyright law. At some point, this issue will have to be resolved.

The Promise of Technology and Virtual Archives

Despite the problems inherent in scanning and OCR and the nettlesome legal niceties, digitization can change the way history is preserved, made accessible, and used. Supported by this technology we can build large databases from borrowed documents. Instead of competing for these collections as we do now, our greatest challenge will be to cooperate to make as many resources as possible fully accessible. A vast network of databases containing image and text of source materials would serve scholars as never before. Technology already permits easy delivery and exchange of text files, and advanced compression technology and broad band-width delivery

will eventually make sharing electronic image files commonplace.

Access over ownership, the same rationale that has forced changes in libraries around the world, can have an even greater impact on archives and manuscript holdings. By offering to scan and return borrowed documents, we will be able to gain access to many more materials, since our ability to provide information will no longer depend on the donated and deposited collections that severely strain our limited space and staff. The portability of

digitized information will make information accessible to scholars as never before. Freed from labor-intensive requirements now needed to prepare and make collections available, archivists will be able to devote our efforts to expanding our educational role and sharing information as effectively as we can.

Technology will not go away. Ultimately, it will transform the archival community. The time has come to prepare for that future.