Chapter 8

Automating the Records

In April 1964, Elder Howard W. Hunter, then president of the Genealogical Society, attended a week-long computer seminar sponsored by IBM in San Jose, California. After the first day, he wrote in his journal: "I was amazed in having been able to write a computer program in one day without previous experience." On the fifth day he was less ebullient: "The material is so concentrated and given so rapidly, it keeps one under a constant strain to keep up." The session concluded with a "look into the future and what we might expect in new data processing equipment."[1] Elder Hunter had glimpsed the potential of computer technology to manage and process names for temple ordinance work; it was under his direction that automation was implemented.

The Family History Department began the massive project of automating its data and gathering further records from the genealogical community in automated format in the early 1970s. Automation resulted in several amazing new programs designed to facilitate the two overriding purposes of the Department: processing names for temple ordinances and assisting researchers. It also opened the door for many more Church members to be involved in and responsible for genealogical work even though they lacked the skills necessary to do research in the primary sources. The ultimate promise of automation was to reduce research to keystrokes at a computer terminal, thus eliminating the complexities and frustrations of dealing with original records and cumbersome

volumes. Computer programs beckoned to an increasingly computer-literate world. As a result, a larger spectrum of people than ever before began to participate in family history activity.[2]

GIANT

In 1969 the Department unveiled a comprehensive computer system designed to automate the submission of names for temple ordinance work. Introduced to the public as the Names Tabulation Program, it was known within the Department as GIANT. It combined the names extracted from genealogical sources under the Records Tabulation Program (R-TAB) with the names from manual method of patron name submission. All names went into one computer system, programmed to detect duplicates and confirm unique entries. It served as the primary names-processing system for the next twenty years.

The use of GIANT implied a fundamental change of concept—family groups no longer needed to be identified before temple ordinances could be performed. Subsequent to the 1894 revelation of President Woodruff concerning the sealing of families, the identification of family groups became an integral part of family history research. Under the new system, Church members were no longer required to compile group sheets to clear names for temple work. Instead, they filled out magenta-colored Individual Entry and Marriage Entry forms with fields designed to simplify data entry.

Extracted names from the Names Tabulation Program could not be placed into families without research. Consequently, only individual ordinances such as baptisms and endowments were performed for these names. Sealings, either of spouses to each other or of children to parents, were not performed. The Department had hoped that Church members would use the alphabetized parish register printout provided by R-TAB to identify family members, then place them in family group sheets to submit to the temples for sealing ordinances. However, few members took those steps.

President N. Eldon Tanner asked George Fudge if a way could be found to solve the problem of how to do sealings for individually extracted names. Complicating the issue, however, was the policy that temple ordinances be performed in order: baptisms,

endowments, then sealings. As Fudge sat in his office pondering the problem, the question came to him one day, "When do these ordinances become effective?" The answer, he reasoned, was that their ultimate validity depended upon the worthiness of the individuals for whom the ordinances were performed and upon whether they were performed by the proper authority in the proper place and officially recorded. Furthermore, as he reviewed the scriptures, Fudge found nothing implying that the order in which proxy ordinances were performed had any impact on their validity.

This discovery could have a tremendous, almost revolutionary, effect on the traditional pattern. Children could be sealed to their parents even if they were not yet tied together in family groups and even if the names of the parents were not yet known. If a child were sealed to parents (that is, if the word *parents,* rather than specific names, was used in the temple ceremony), there would be no doubt that the child would, in fact, be sealed to his or her correct parents. Fudge proposed, therefore, that proxy sealing of spouses be performed from marriage records, whether or not the spouses had been endowed, and that proxy sealing of children to parents be performed from birth or christening records, whether or not the parents had been endowed or sealed. Elder Howard W. Hunter took this new concept to the First Presidency, who approved it, and it was quickly put into effect.[3]

GIANT made "individual" ordinance work a comprehensive principle for all name submissions, but it also caused serious concerns. Professional researchers saw it as a threat to their livelihood. Some family organizations complained they wished to do sealings for their family only when all of the children were represented by proxies at the same time.[4] One Department board member privately expressed his reservations, saying that the new approach was misguided and wrong. Even some General Authorities did not readily accept the change. After Harold B. Lee became President of the Church, he questioned the policy and, for a short time, abrogated the sealings of parents for whom baptism and endowments had not yet been performed. However, his successor, President Spencer W. Kimball, reconsidered the issue and, with the support the Council of the Twelve, confirmed the principle of performing sealing ordinances without first identifying family groups.[5]

Although the most important result of this change was that all ordinances could be provided for individually extracted names, the new policy considerably reduced the genealogical research load. The Department continued to emphasize family responsibility in compiling family groups even though the names were submitted for temple work individually, but so far as its own work was concerned the Department deferred the matter of identifying family groups for extracted names.

The heart of GIANT was a master file containing genealogical and temple ordinance data for individuals. It served as the basis for a multiplicity of functions: (1) data entry, (2) standardized place names uniquely identified by geographical coordinates, (3) standardized surnames, (4) a duplication check that compared names against the mass file, (5) printed ordinance lists sent out to the temple, (6) clearance notices mailed to those who submitted the names, (7) mass file update, (8) a microfiche output known initially as the Computer File Index (CFI) but later as the International Genealogical Index (IGI), (9) a batch number index that identified the source of the name submission, (10) and a listing of all extraction sources, known as the Parish and Vital Records List (PVRL).

GIANT had one major shortcoming. It required that all persons in the system be identified by a basic set of data—name and event date and place—from a *single* source. This feature of the system restricted the submission of many names from the United States, a country that does not have single-source records for most of its population. An alternative was needed to handle the submission of names when a piece of required data was missing or when multiple sources were merged into a composite. In response to this problem, the Department developed the Family Entry System as a supplement to GIANT.

Implemented in January 1979, Family Entry cleared names based on family relations rather than on dates and places of birth and marriage (the data GIANT required). The data used in this process could be derived from various sources, and precise dates or places were not required. The system assisted the submission of names, not only from U.S. records, but also from oral genealogies.

After two decades, the GIANT technology, once on the cutting edge of computer processing, was stretched to its limits.

Computer center of the GIANT system, 1968. Shown are Ivan Pack, programmer (left), and Delbert Roach, library director (right).

By the late 1980s, a replacement was obviously needed. For a time, development efforts focused on creating a bigger and more complex central system. In the end, another change in policy resulted in a smaller, decentralized system known as TempleReady.

TempleReady

A major task of the Genealogical Society since the creation of the Temple Index Bureau card index (TIB) in 1927 was to reduce duplicate ordinances by checking name submissions against a central ordinance file. This function and the related processes of assuring complete and accurate data were called "names clearance." The creation in 1970 of an automated ordinance file in the GIANT system made names clearance a two-step process. First, a computer check of name submissions was made against GIANT. Next, a manual check was made against the TIB. In the manual check, employees identified individuals whose temple endowment had been performed by shuffling down narrow isles and thumbing through a forty-year compilation of cards filed in 700 filing cabinets.

Two important developments profoundly altered the process of names clearance in the late 1980s. One was technological. Powerful and inexpensive microcomputers made it possible for virtually anyone to do data processing virtually anywhere, and compact-disc technology made the distribution of large databases feasible. Martell Gee, head of systems development in the Department, recognized the possibility of creating a compact-disc version of the file of completed proxy temple work (the International Genealogical Index, or IGI). He won approval for a test project, and in a relatively short period, his staff produced a prototype that proved the concept was feasible.[6]

The second development to alter the procedure of names clearance was a change in policy. The long-range goals, adopted in 1976 (see table in chapter 7), envisioned the day when this responsibility would be returned to the members, with whom it had resided before 1927. At a special meeting in December 1988, Department management decided to pursue the concept of placing computers in meetinghouses to permit members to clear names for themselves.[7] The proposal was approved by the First Presidency in May 1989. In the words of the Department's executive director, Elder J. Richard Clarke, this historic decision would "revolutionize family history work."[8] He hoped to make family history work easy for anyone who would try and to propel the Church into a new era of family history activity.

The name eventually given to this plan was TempleReady. The program permitted members to match names they desired to submit for temple work against the record of temple ordinances in the automated IGI. An individual would either type in a name on the computer or transfer data from a diskette created by the Personal Ancestral File program. TempleReady would prompt the user to enter the appropriate compact disc of the IGI, compare the names, and display possible matches. The individual could accept or reject the match, or even skip this function and have the computer automatically decide if the name matched anything already in the file of completed work. The end product was a submission diskette that could be taken directly to the temple. This simplification reinvigorated researchers, who could take the results of their research directly to the temple. It also transferred the

burden of supplying temple names from the Church back to the individual, reducing reliance on the name extraction program.

TempleReady employed name-checking routines that excelled those in the GIANT system by increasing the number of matches for variant spellings. The new algorithms weighed each match and computed a probability that two entries represented the same person. Tests showed that 80 percent of the names cleared by GIANT would be eliminated as duplicates by TempleReady.[9]

TempleReady was tested as the "Names Clearance System"[10] in the Salt Lake Mt. Olympus Stake, beginning in July 1990. During the next eight months, the number of stake members clearing names jumped from 31 to 283 per month, and the number of names cleared rose from 426 to 6,700. An average of eight or nine names was cleared each hour during the pilot. The test phase was expanded to sixteen stakes in May 1991. In September, John Jarman observed to his fellow directors, "The program has been so easy to use, and the clearance of names occurs so quickly, that members of the Church have one of two reactions—utter disbelief or overwhelming joy once they realize that the work is now ready to go to the temple."[11]

Word of the program spread. In November 1991, the Department received approval to expand the test to over two hundred stakes in the U.S. and Canada. Shipment to these stakes began on 31 December 1991.[12] In November 1993, the Department released the program (as part of the FamilySearch package) to all English-speaking stakes in the Church. A new era had dawned in the history of temple work.

In addition to the pilot in the stakes, in 1991 the Department distributed TempleReady to all temples except those in Japan, Taiwan, and Korea (which continued to use non-Roman-script manual systems). Even though the pilot had not been translated into languages other than English, the program was so easy to use that workers had little need to refer to the written instructions.[13]

Temple Recording

Before long, automation reached inside the temples themselves, and for good reason. In the 1970s, the ordinance lists created

by GIANT inundated the temples with nearly fourteen tons of paper every year.[14] The printed forms needed to be checked manually for print quality, sent to the temples, updated with proxy names and ordinance dates, and returned to the Department for ordinance data entry into GIANT. It was a paper-flow quagmire. This problem, together with the rising cost of paper due to a shortage in the United States, led to the development of the automated Temple Recording System (TRS).

Discussion of such a system began in 1974 but was not pursued seriously until the adoption of the 1976 long-range goal to use modern technology in recording completed temple work. In October 1977, a formal project was initiated.[15] The technical challenge was so enormous that developing the system took three and one-half years. This system used multiple identical minicomputers working together to provide the desired capacity and redundancy. A spare computer could take over if any of the others went down. Each computer handled a different set of ordinances, and names were passed from one computer to the next as the ordinances were completed. The number of computers varied to match the volume of work performed in a particular temple.

The system also produced automated statistics and controlled information on lost temple recommends. Because each patron's temple recommend was placed in a plastic holder with a magnetized strip on which personal identification data was encoded, the system even alerted the receptionist at the door if it was the recommend holder's birthday.[16]

In February 1981, TRS was introduced in the Salt Lake Temple. The system soon produced the desired benefits. Much of the work of recording temple ordinances performed became paperless, and the clerical staff was reduced from twenty-two to nine.[17] As efficiency increased, the automated data could be rearranged to meet any informational need, or it could be transferred into other systems. Temple workers found the system easy to use, an important consideration as many had little computer experience. TRS was implemented at the Jordan River Temple when it opened in December 1981. The Provo, Ogden, and Swiss Temples were refitted to use it in 1982, and, by 1986, it was put into use in eighteen more temples.[18]

As important as it was, however, the Temple Recording System was never implemented in all the temples, partly because technology quickly passed it by and partly because of still another change in policy. In September 1989, the First Presidency paved the way for a less expensive system. They decided to eliminate the recording of the names of proxies, witnesses, and officiators. Only information on the person for whom the work was done and ordinance dates would be collected and stored by the system. This decision was in response to the "pressing need for less complex temple procedures and reduced personnel requirements."[19] It also reflected the general effort throughout the 1980s to simplify policies and practices as the Church experienced rapid worldwide growth.

The Temple Department had been established in 1979 to administer all affairs related to temples. Created when TRS was under development, it played a major role in fielding that system. It now began work on a new automated program consistent with the simplified recording requirements. The new system, named the Ordinance Recording System (ORS), was designed for simple installation and operation by temple personnel with minimal support from Church headquarters. It also integrated into the temple-recording process those patron submissions created through TempleReady. The system was piloted in the Logan Temple in 1990 and implemented in most other temples the following year.[20]

This system consisted of few procedures and minimal computer support. Names of ancestors were received at the temple on computer diskette, supplied by the Department or directly by Church members. The temple printed out slips as needed for ordinance work each day. The person serving as proxy received a slip and returned it after the ordinance work was completed. These slips were then collected and used to update the database. Global update, which allowed more than one record to be updated at a time, permitted quick recording. The whole procedure was supported by no more than two or three personal computers, two printers, and a few clerks. Once the temple record was complete, it was sent on disk to the Family History Department. There it was entered into the Completed Ordinance File (COF). Begun in the summer of 1991, this file had grown to twenty-one million names by 1994.[21]

Stake Record Extraction

Meanwhile, the objectives of simplifying family history work, decentralizing headquarters functions, and involving the Church members were embodied in the stake record extraction program. This program consisted of the Department sending genealogical sources on film to stakes and Church members extracting all names from those sources onto cards and returning the cards to Department headquarters for names clearance processing. This program sidestepped the research process and the complexities of putting names together into families. The process of transcribing could be performed wherever there was access to a film reader.

Prior to stake record extraction, extensive extraction was performed at Department headquarters. In 1977 most of the two hundred employees in the Temple Services Division extracted names from New England, British, Spanish, German, and Swedish records. Sometimes this work was extremely difficult and slow, for the records were difficult to read. Managing Director George Fudge proposed the concept of decentralized extraction to Elder Boyd K. Packer, whose immediate response was, "That's inspired."[22]

The idea for extraction at the stake level originated in 1976, when Elder L. Tom Perry challenged members of the St. George Utah Stake to submit as many names for temple work as ordinances they performed. Seeing no way to meet this goal under the current system, stake leaders wrote to the Department asking for their own extraction program.[23] The Department approved their request in January 1977.[24]

Two rooms were reserved in the St. George Tabernacle, and ten microfilm readers installed. Leaders in the St. George and St. George East stakes called twenty-seven local Church members as missionaries to carry out the program. The Department sent microfilms of German and English genealogical sources. It also sent instructors to teach procedures as well as the paleographic skills needed to analyze and transcribe names written in archaic scripts. Extraction began in May. After three months, the two stakes had extracted 80,000 names, well exceeding the challenge delivered the year before. The excitement and dedication of the local people is illustrated by the comment of Alvin Gentry, a stake

genealogical leader. "We have fun here," he reported. "We really enjoy it. In fact, we have trouble getting the workers to take their breaks and to work only four hours a day. Many of them want to stay on working longer."[25]

With the success of the St. George program, Department officials were satisfied that stake extraction would work. In November 1977, therefore, they sought and immediately received the approval of the First Presidency to expand the program Churchwide. Six additional stakes applied for the program that same month—Las Vegas South, Grantsville (Utah), Orem North (Utah), Salt Lake Ensign, Salt Lake Wilford, and Santaquin (Utah).[26]

The formidable task of training began. Extensive resources both in the stakes and at Department headquarters were required to prepare and distribute training materials. In the process, the Department not only instructed the stakes, but also learned by their experience. It found, for example, that decentralization also required simplification. The large binders used at Church headquarters were reduced to a few sheets of instructions for use in the stakes. The decentralized program was such a success, however, that it eventually eliminated the need to employ staff to continue extraction at the Department headquarters.[27]

Important measures were taken to insure the integrity of the extracted data. Duplicate extractions were made and compared in order to reduce transcription errors, and in 1979 the cards were routed through an audit unit at Church headquarters. The quality of the extraction was high, with 97 percent of the batches passing the audit during 1979. Another attempt was the request that stakes become accredited. To become accredited, stake trainers were required to pass a test of their ability to extract records in the language assigned to the project. In 1979 trainers were accredited in 60 percent of the approved projects.[28]

At first the receipt of names from stake extraction was slow. By the end of 1978, only thirty-four stakes were actually extracting records, and only 75,000 names from the program had been cleared by the Department for temple work.[29] This number was not a huge return on the investment in time and effort. To some degree, the limited success resulted from the fact that many name cards remained in the stakes pending the extraction of all names in

an extraction batch. But it also reflected the inevitable time required to start a new program, train the staff, and produce results. The number of stakes turning in extraction cards increased substantially to 109 in 1979, with 404 stakes having received batches. The program matured during the next decade. By 1985, it had produced enough names to supply current temple needs and to serve as a year's supply in advance. In that year, 841 extraction sites totaled an estimated 12,000 people working four to eight hours per week and producing about 10 million names a year.[30] By 1991 the stake extraction program had produced 115 million names.[31]

At first the stakes filled out a card for each name extracted and mailed the cards directly to the Department for data entry. As minicomputers became more available locally, however, a regional Volunteer Data Entry Program (VDE) was launched. The first site was set up in the Orem Utah West Stake on 18 October 1982. Stake extraction centers throughout the Provo Temple District sent their cards to the new site instead of to Salt Lake City.[32] By the end of the year, five more VDE centers had been established. Early in 1983, these centers were averaging data entry of 60,000 names per week.[33]

Outside of the United States, the Department introduced the extraction program at temple service centers (later family history service centers). They provided names for work at newly built temples in South America, Asia, and later in Europe. In 1977 extraction began in Mexico City, and in the following year, it was introduced in São Paulo and Tokyo. Anticipating the construction of the East German temple at Freiberg, local members produced 35,000 names before the temple groundbreaking in April 1983.[34] Likewise, members in Chile extracted 115,000 names prior to the dedication of the Chilean temple in 1983.[35] The Department gradually expanded the program beyond the temple service centers into international stakes in general.

Family Record Extraction

Another form of extraction took shape in the late 1980s. Known as the Family Record Extraction Program (FREP), it was designed to index a variety of family history sources. The first use

of FREP was automating all temple ordinance data prior to 1970, as envisioned by the 1976 long-range goals. To reach this goal, the Department involved thousands of Church members.

Creating such an automated master temple file was discussed in 1976 by Department management, who considered converting the manual TIB file either through optical character recognition or computer keyboarding. At the time, however, the costs to proceed were judged to be too high.[36] When the discussion resumed in 1981, Department management dropped the idea of TIB conversion in favor of extracting data directly from the original temple records.[37]

In late 1984, it was proposed that films of pre-1970 temple records would be printed on a continuous roll of paper through a process known as copyflow, cut into batches, and sent to the homes of Church members for manual transcription. The data would then be entered locally on personal computers and returned to Department headquarters on computer diskette.[38] Thus began FREP.

Elder Richard G. Scott was a driving force behind FREP. He had been appointed an assistant executive director of the Department in 1981 and had become its executive director in late 1984. Recognizing that the average member of the Church had difficulty getting involved in family history activity, he had proposed taking the program to the members in their homes. The basic vision of FREP implements his proposal by combining the contributions of the computer with the contributions of numerous people sitting in the comfort of their own homes and using no more than pen and paper. This simple vision has the potential of involving virtually anyone in this Herculean indexing task.

Before such a proposal could be implemented, the Department had to write new software, establish procedures, prepare instructional materials, install new equipment, obtain approval from various administrative levels, and field test the entire concept. The new software, which became known as Universal Data Entry (UDE), employed user-defined templates. This feature permitted anything to be indexed after a template had been fashioned to fit the nature of the information in the source being indexed. Department staff designed different forms for the different temple

record formats. Family history missionaries at Church headquarters were assigned to prepare the extraction batches for transmission to the stakes. The video, *A Unique Opportunity to Serve,* was created to introduce the program and explain its purpose to Church members who would be asked to volunteer their time. New copyflow printers to produce the paper copy for extraction were installed at the Granite Mountain Records Vault.

The pilot program for FREP was conducted from October 1986 through April 1987 in twelve stakes in Utah, Maine, Illinois, California, Montana, Georgia, Washington, Texas, Maryland, and Kansas.[39] Then, with all preliminary tasks completed, the Department was ready to deploy the system. But the initial starting date of 1 July 1987 was delayed six months because of announcements in the computer industry that hardware better suited for the program would soon be available.

In early 1988, Elder Scott expected all 1,000 stakes in the United States and Canada eventually to be enrolled. After only eighteen months, more than half of that goal had been achieved, with 650 stakes cooperating in the program.[40] In its second year of production, FREP was evaluated. The Church Correlation Department surveyed 110 stake coordinators, investigated thirty-four stakes in depth, and conducted interviews in seventy-six other stakes. As might be expected, not all stakes were equally effective in implementing the program. Thirty-seven percent of the stakes were fully organized, and 40 percent were partially organized. Sixteen percent had just entered the program. In the average stake, seventy-five people were involved, and the average extractor donated five hours per week to the project. Of those involved, 75 to 90 percent said they looked forward to the work. Less pleasing was the fact the priesthood leadership was not very involved in the process.[41] Overall, however, the program was achieving the purpose of involving a significant segment of the membership of the Church in family history activity.

Initially, the goal was to finish indexing the temple records in five years. After three years, only one-fourth of the batches had been returned, but the rate of return was rising steadily. While an average of 500 batches came back to the Department each month of 1989, the rate doubled to 1,000 per month in 1990 and then

to 1,500 in 1991. To speed up the process, the Department introduced in 1989 software that permitted direct entry from copyflow prints to computer diskette, eliminating the hand transcription step. This change took advantage of the increasing presence of personal computers in homes. By 1995 the project was virtually complete, with only a few hundred of the 100,000 batches generated by the program still outstanding. In total, 50,000 members had participated.[42]

A major restructuring of the extraction programs occurred in February 1994, when the Church merged Family Record Extraction and Stake Record Extraction. The new program, administered primarily at the ward level, was designed to have the records of a country extracted by those living in that country. Local units were given wider responsibility to choose what they wished to extract. At the same time, new family history sources were added to the extraction list.

As originally conceived, FREP could be used to extract data from any family history source. When the temple records were exhausted, the Department began to distribute other valuable family history sources. The traditional list of extracted records—christening, birth, and marriage records—has been augmented by new sources such as U.S. civil death records, Ellis Island (New York) passenger lists, and Canadian census schedules for 1871 and 1881. As Elder Scott had envisioned, meaningful family history work could be performed in the homes of all members who were willing to help share the task of identifying those who had lived in generations gone by.

CFI/IGI

Automation also provided the means to effectively distribute ordinance data. The database of names in GIANT, known as the Mass File, was made available on microfiche in 1975. The set of microfiche, called the Computer File Index (CFI), provided researchers a manual check of the database in order to prevent resubmission of names for which temple work had already been performed. A batch number in each entry also provided a trace back to the source from which the name came.

The CFI consisted of extracted names gathered under the Records Tabulation Program (R-TAB) and names submitted by Church members since 1970. The entries were filed alphabetically under the country in which the ancestor was born or married. The 1975 CFI consisted of approximately 30 million names on 2,689 microfiche. It was sent to one hundred branch libraries for $208 per set, the amount needed to recover the cost of producing the fiche.[43]

The fourth edition, renamed the International Genealogical Index (IGI), was published in 1981. The new name reflected the research value of the file. Because it contained large numbers of names from original records, the index served as an index to original records as much as it did to temple ordinances. It grew substantially between each edition, expanding from 34 million names in 1975, to 81 million in 1981, 108 million in 1984, 147 million in 1988, and 187 million in 1992. This was an average increase of 9 million names each year.[44]

As the index became a more comprehensive research tool, demand for the file by genealogists not affiliated with the Church expanded. In 1984 the index was offered for sale to the general public. It was of particular value in British research. The 1988 index contained names extracted from British records over the previous twenty-five years, amounting to 58 million of the 147 million names in the file.[45]

The 1988 IGI became an even more powerful research tool with the introduction of the compact disc version. This not only permitted automated searching, but also expanded search possibilities. A member could retrieve names of children by entering the names of the parents. A person could then reconstitute tentative family groups from the individual name entries. The primary purpose of the IGI, however, from the Department's perspective, continued to be as an index to ordinances. Combined with TempleReady, the compact-disc version could be used for names clearance by the individual member, as previously discussed.

The 1992 edition of the IGI on microfiche was a totally new product, including 187 million names, not only from the Mass File in GIANT (162.5 million), but also from other ordinance files: pre-1970 temple records created by the Family Record Extraction Program (17.5 million), records from the Family Entry System

(4.5 million), and Completed Ordinance File records created by the Ordinance Recording System (2.5 million). At the same time, extracted names in the Mass File for which ordinance work had not been performed were withheld pending the creation of the Extraction Resource File (22 million names).[46] Eventually, this file will be made available as a source of names from which members can select those they wish to submit for ordinance work.

Creating a compact-disc version of IGI became problematic. Amassing the names from the various files created in different databases and by different systems was a technical nightmare. Also, the available computer power was insufficient to handle such a leviathan task. The 1992 compact-disc version was delayed until November 1993, but because of the delay, additional names became available. The new disc version contained fourteen million more names than the microfiche version published the year before.[47] The delay also resulted in another benefit: data compression technology had developed to the degree that it could be used to provide a quantum increase in the storage capacity of a disc. While fifty million names were added to the IGI between 1988 and 1993, the number of discs was reduced from fifty-eight to thirty-three.[48]

In only two decades, the Department and countless Church volunteers have created what is probably the largest name database in existence. Yet this achievement is only the beginning in the Department's quest to identify, as nearly as possible, all the people who have ever lived.

Cooperative Indexing

In the 1980s, the Department embarked on creating automated indexes to major research sources. The precedent was set by the 1982 decision to index the 1880 U.S. federal census. This project was particularly needed by U.S. researchers because a national civil registration system was nonexistent in the U.S. prior to the 1880 census. U.S. research was further complicated because of a highly mobile population and because record-keeping practices had created a random array of record types throughout the nation. By 1990 more than half of the fifty-million census entries were transcribed.[49]

In 1985 the Department's executive director, Elder Richard G. Scott, proposed expanding the program to involve not only Church members, but also any other people willing to help with indexing. The first major project in the Cooperative Indexing program was the 1881 British census. Discussions concerning this project began in 1985 with the British Genealogical Record Users Committee and the Federation of Family History Societies in England. The resulting agreement provided that the Federation be in charge of transcription and the Department provide paper copies of the census, data entry software, hardware, and outputs at cost. Beginning in February 1988, the first of over eight thousand volunteers from family history societies throughout the British Isles began transcribing the thirty million names in the 1881 census. Data entry began in 1989. In 1991 the first outputs for individual counties—Cambridge, Denbigh, and Flint—were published. In 1992 sixty-two data entry sites at Church facilities in England continued to work on the program. They were supported by a staff of thirty full-time missionaries and ten volunteers at Church headquarters.[50]

In 1994, Anthony J. Camp, director of the Society of Genealogists, referred to this project as "the largest joint [genealogical] project ever undertaken in England, . . . an almost foolhardy idea. . . . But the results are revolutionizing genealogical research in England, Scotland, and Wales; and giving beginners in the subject, a flying start when they most need it." As of December 1994, 99 percent of the census entries had been transcribed and 82 percent of the data entered on computer discs. Index fiche had been produced for 42 of the 91 counties in the British Isles. Referring to the assistance of the Church and the Family History Department, Camp said, "Their contribution has been absolutely magnificent and generations of genealogists yet to come will be in their debt."[51]

In 1991 the U.S. Federation of Genealogical Societies[52] approached the Department in behalf of the National Park Service with the proposal that the Department provide data entry software, for creating a database from records in the National Archives concerning Civil War participants. The Park Service envisioned such a database as a significant resource in answering queries by visitors to battlefield sites. The Federation of Genealogical Societies assumed the responsibility to coordinate the extraction. Many other cooperative projects are being discussed as possible future ventures.

Ancestral File

Along with automating ordinance files and research sources, the Department developed an unprecedented computer research file to help people avoid duplication of research efforts. Known as Ancestral File, it provides the results of countless research hours in the form of pedigree charts, family group records, descendant charts, and assorted other reports. As a source of completed research, it helps researchers take advantage of the work done by other genealogists. As an automated file, it can be made available anywhere a computer might be installed. Open to submissions from all researchers, it serves as a focal point of cooperation between the Department and genealogical researchers throughout the world.

Ancestral File was an automated extension of the original concept of the Four- Generation Program, which began in the early 1960s. Submissions to the Department were kept in heavy black binders at the main library and on film in the branch libraries. As countless researchers discovered, sheets submitted by different people for the same family contained numerous discrepancies. Before automating the file, Department leaders felt that as many discrepancies as possible should be eliminated from the sheets. Thus, when the call for four-generation sheets was renewed in 1978, accuracy became the watchword of the program.[53] The Department asked families to coordinate their efforts and submit a single set of sheets as well as a pedigree chart. These new submissions became the major data source for the initial release of the automated file.

The target date for submission of four generations to Ancestral File was 1 July 1981. In a frenzy of activity, Church members submitted more sheets in the last two weeks of June than in the previous two years of the program.[54] The target date had been perceived as a deadline. The Department worked for several years to clear up this misunderstanding and encourage continued submissions to the file. In the meantime, the Department had a mountain of paper containing genealogical information and a task of unknown dimensions to provide access to the data. The sheets were microfilmed and indexed on microfiche by name of submitter and by surname of the first person on the pedigree.

In 1982 the Department sought to increase the usefulness of the file by soliciting submissions beyond four generations. A letter was sent to several hundred family organizations requesting the extended research. The Department also drew upon the compiled records in its Medieval Records Section. Created in 1972, this group of specialists and volunteers had compiled approximately 25,000 family group records, representing 100,000 individuals of selected royal, noble, and pre-1500 families.[55] These two sources of data began to expand the file, fulfilling the intent of having the file serve as a collecting point for all genealogies back as far as sources would permit.

Programming to automate Ancestral File began in 1984. It was a major step into the unknown, especially in light of the variable relationships between people and the possible ways of searching and retrieving such information. Through a rigorous process of defining user needs and expectations before programming began, the Department resolved issues regarding retrieval requirements, inputs, outputs, and privacy. In 1987 the Church purchased a mainframe computer exclusively for Department use, the CYBER 180 model 992. This would serve as the main computer tool in making Ancestral File a reality.

Ancestral File data entry software became available in October 1984.[56] Because of wide variations in the way information was recorded on the submitted sheets, data entry was divided into two steps: sheets were coded, and then relationships were marked with a standard code, the order of dates and places were regularized, and surnames were marked. While some coding and data entry were done at Department headquarters, most of it was performed at special sites in Logan, Ogden, and Provo. With the data entry nearing completion, a prototype of the file was released in 1987 for testing in the Family History Library.

Considerable work went into making Ancestral File both effective and user friendly. Response time, in particular, was considered crucial to user satisfaction. It dropped from minutes to seconds as the search routine was improved. The file, comprised of four million names, was installed in the Family History Library in April 1988.[57]

A major obstacle that had to be overcome in the creation of the file was the existence of countless duplicate submissions. Because
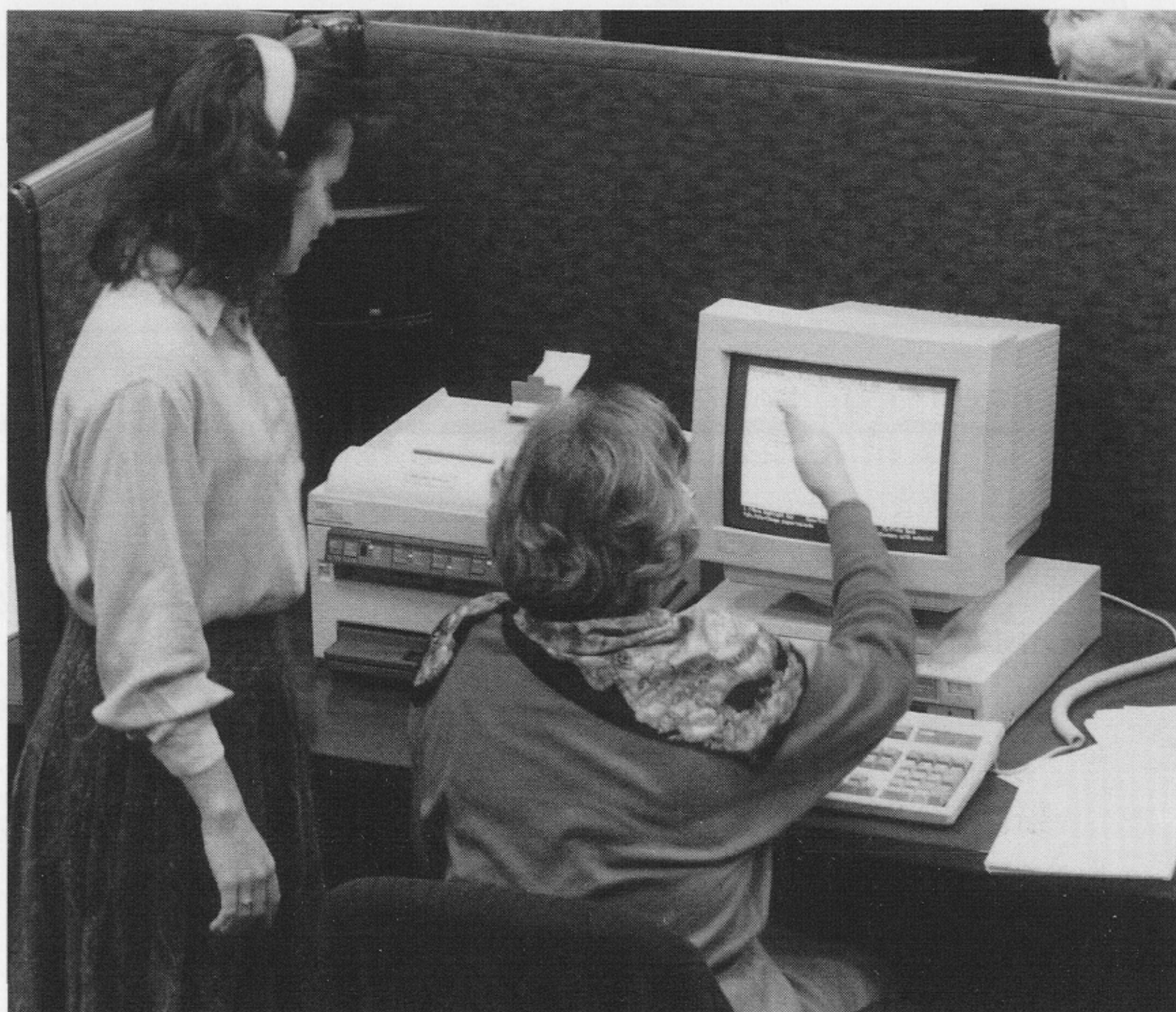
many Church members have common ancestries, different descendants had submitted information on the same family lines. The computer was assigned the task of merging these duplicate submissions while not merging persons with similar identities. Even though the name of each person who submitted entries was retained, merging eliminated the possibility of determining who submitted what piece of data. The initial merge pared the submitted 8.2 million records down to 4.5 million.[58] Routines designed to detect duplications eliminated 90 percent of them, although, unfortunately, existing technology was insufficient to detect all duplicates resulting from variant spellings and birth dates.[59]

In 1988 the Department decided to invite submissions from the entire genealogical community. The benefit would be clearly evident to anyone using the system. Ancestral File was seen as the central system for promoting cooperation among genealogists.

While a production system was in operation as early as 1988, the file was not distributed Churchwide until September 1990 and then as part of FamilySearch. In articles in Church and genealogical community periodicals, press releases, and presentations at professional meetings, the concerted efforts of a decade were released to the public. It was an unprecedented undertaking for the Church, unequaled in scale anywhere. Ancestral File became the starting point for anyone interested in commencing new research.

In 1991 new features were introduced, including descendant charts and a correction system to provide users a means to revise the file. The 1992 edition reduced the number of compact-disc swaps during searching.[60] From 1990 to 1993, the file grew from seven to fifteen million names. The file continues to grow, limited mainly by the capacity of the Department to process contributions and produce new releases.[61]

As with most software development, great strides forward were accompanied by some faltering steps. The Department continues to work on several unresolved problems regarding source citations, correctness of the merge process, errors in the data, identifying submitters, making the edit/correction capability easier to use, and accommodating diacritics or non-Roman characters.[62] Despite these drawbacks, the file accomplishes its basic purpose of expanding the possibilities for all genealogical researchers.

Patrons using the computers in the FamilySearch Center located in the Joseph Smith Memorial Building, 1993.

Personal Ancestral File

By the 1980s, the personal computer was revolutionizing not only how businesses and institutions managed information, but also what went on in households, especially in the United States. The Department responded by developing a personal computer application whereby individuals could record the names and relationships of their ancestors. Personal Ancestral File (PAF) was initiated in 1983 as a part of the Ancestral File project. It was released in April 1984 and sold for $35, a price that covered little more than the costs of the manual and diskettes. Within six months, 4,000 copies had been sold.[63]

The earliest version of Personal Ancestral File had one glaring deficiency—poor response time. Release 2.0, a complete rewrite that was available in April 1986, corrected this problem.

More significantly, the new version introduced a genealogical communications format known as GEnealogical Data COMmunications (GEDCOM), the purpose of which was to establish a standard for sharing data between programs or computers or both. GEDCOM eventually became a standard for data communication of genealogical information in the genealogical community at large. The Department encouraged other developers to write GEDCOM-compatible programs similar to PAF. It launched a registration program, where staff reviewed programs sent in by developers and certified whether they were fully compatible with the GEDCOM standard. By late 1994, thirty programs had been registered.[64]

Meanwhile, in April 1988, release 2.1 was made available for IBM, IBM-compatible, and Macintosh computers. This release allowed transfer of PAF information on computer diskette to Ancestral File. Consequently, submissions would reflect exactly what was typed in at the point of origin and be added to the file without waiting in a queue at a data entry site. This release also allowed temple name submission on computer diskette. Routines were added to the program that enhanced the accuracy of submissions. For example, the system automatically prompted the submitter to correct inconsistencies such as death dates that preceded birth dates.

Other refinements have been added. Prior to the general release of Ancestral File to family history centers in 1990, PAF was upgraded to increase the ease of data transfer between it and the parent system. Release 2.2, issued in November 1989, permitted the match-merging of records from other data bases. It also introduced the ability to convert pieces of a large data transfer from Ancestral File. The program was upgraded again in 1994 (version 2.31) to make it fully "compatible with Temple-Ready, using the same rules to check and qualify names."[65] By that time, ten years after its original release, over 300,000 copies of PAF had been sold.[66]

Personal Ancestry File had another less profound, but significant, impact. The program printed out family group records in the common letter-size format. From the early twentieth century, the Department had required legal-size family group sheets to be used in submitting information. Because PAF was about to be released, the Department reviewed this matter, opted in favor of letter size,

and adopted an evolutionary strategy for introducing the form.[67] In 1987 it was adopted as the standard submission form for temple ordinances and was widely circulated in the publication *Come unto Christ through Temple Ordinances and Covenants.* It also became the primary form for the manual submission of research to Ancestral File.

Automated Catalog

As the Department automated names processing, it began to consider automating its library. The task was equal to, if not greater than, developing GIANT. The library was receiving approximately forty thousand new rolls of microfilm and thousands of new books each year. Keeping the card catalog updated, particularly the microfilm copy provided to the branch libraries, was an acute problem. Automated library cataloging systems were still in their infancy in the early 1970s, however, and they focused primarily on book collections. Acquiring, handling, cataloging, and distributing information contained on microfilmed manuscripts was a unique problem. As the Department studied the challenge from 1970 to 1976, it envisioned a total system with various modules that would identify genealogical sources worldwide, control the microfilming of those sources, process the microfilms, catalog them, and provide public access to the collection.[68] In 1976, the Department decided to proceed with the cataloging program.

A key decision made at the outset was that records would be cataloged in the language of the record or of the country from which they originated.[69] Because national boundaries had changed, it was necessary to provide catalog headings for each country in which a given locality had been included during modern times. Thus, from its inception, the catalog was intended to meet the needs of an international audience.

The Department also decided to provide a content description for each film in the collection. This decision resulted in descriptions much more detailed than those in any other computer catalog of the time. The catalog also pioneered such concepts as real-time cataloging and automated authority control.[70]

In 1987 the computer catalog totally replaced the card catalog. Information was provided in two formats—microfiche and compact

Research carrels in the Family History Library at 35 North West Temple, ca. 1986.

disc. The compact-disc catalog was first made available with Ancestral File at the Family History Library in 1988 as part of the Genealogical Information System, the prototype for FamilySearch.

Headquarters Systems

In addition to providing such a multitude of automated programs for public use, the Department saw the need to automate its operations at headquarters. In the late 1960s, for example, no integrated system controlled the various stages of microfilm production. Prints were not being sent to donors, some films were not getting evaluated, and some rolls were being misplaced. These problems prompted the development of the Microfilm Production Control System.[71] Packets of punch cards were created for batches of one to nine films. Each punch card represented a film processing task. When the task was completed, the card was posted to the control system that was implemented in 1972. This system

functioned well but became antiquated during the 1970s, when the computer processing environment moved from batch-mode to real-time processing.[72]

Discussion of a replacement system began in 1982 .[73] The Microfilm Production and Monitoring System was installed in 1986. It tracked films through the various tasks preceding storage of the master film in the vault and the printing of films for circulation. The system played a key roll in handling the Department's large number of filming projects in the late 1980s.

By 1973 the Department had implemented a system to account for circulating films from the time they were ordered until they were returned. This system produced bar-code labels for the circulating films and bills for orders. The program was enhanced in 1990 to improve microfiche ordering and other functions.[74]

In 1990 to 1991 a bibliographic index system was developed to provide surname access to information on genealogies prior to 1500. It was used in-house to compile sources for assembling pedigrees that were then added to Ancestral File.[75]

Family Registry

In the 1980s, the Department introduced the Family Registry as a tool to facilitate further cooperation among researchers. Originally, the concept was to provide a listing of family organizations. Such organizations were seen as key elements in getting families to work together on their ancestry. The Registry would allow people to identify family organizations that they could join or consult. In 1983 this concept was augmented by providing a tool to help researchers working on the same line contact each other.

Registration began in October 1983. A brochure was mailed to priesthood leaders; training materials, posters, brochures, and registration forms were sent to family history centers in the United States and Canada; a mailer was sent to 10,000 family organizations; and the program was officially announced in the *Church News* on 18 December 1983. After a year, nearly 100,000 registrations had been received, and an average of nearly 2,000 were coming in each week.[76] At that point, the Registry was expanded to family history center patrons in the British Isles, Australia, New Zealand, and South Africa.

Unlike the Pedigree Referral Service, the Registry permitted two types of entries—individual or family/surname organization. These entries were arranged alphabetically in a microfiche set. Accompanying the entries was information needed to contact the person or organization submitting the name. The actual submission forms were filmed in a separate set of fiche by sequential submission number.[77] This number served as the link between the two sets of microfiche.

The first edition of the Registry, containing 27,757 entries, was released in May 1984. Along with distributing it to family history centers, the Department sent it to over one hundred public libraries. It was published quarterly through 1989, then annually thereafter. By 1993 there were 348,898 registrations in the file.[78]

FamilySearch

The automation efforts of the Department have been tied together under an umbrella system. Known initially as the Genealogical Information System (GIS), it was renamed FamilySearch in 1989. An embodiment of the 1976 long-range goal of creating a central genealogical file, the project involved folding several computer databases into a single system that is now the beginning point for family history research in the Church. The decision made in February 1983 to provide automated access to large files of genealogical sources was as seminal as had been the 1938 decision to microfilm the world's records. Just as the decision to microfilm defined the nature of the Society's work for the decades that followed, so the decision to develop FamilySearch will define the nature of the Department's work for the coming years.

In 1985, Elder Richard G. Scott, executive director of the Department, enunciated the perspective from which this decision was made:
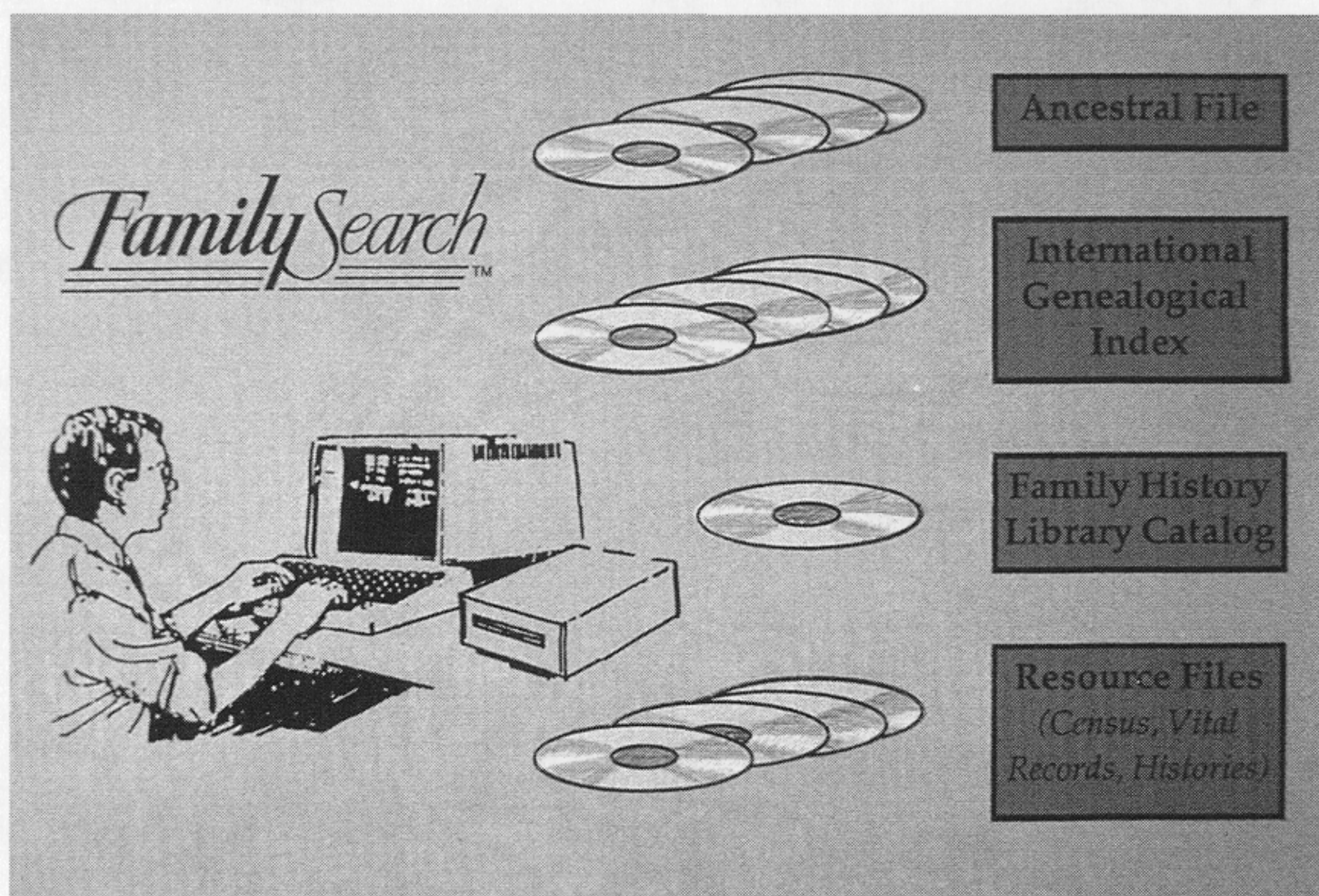
> We really have two options. . . . The first option could be to merely automate what is currently being done in research. . . . The other option is to fundamentally simplify genealogical research using those tools [computers]. . . . In order to do that, we need to enter into the computer large quantities of data that are now either on paper or on microfilm or microfiche, then use the computer to arrange the data so that it is usable.[79]

The development process continued throughout the 1980s as numerous analysts, programmers, other staff members, and users contributed to the project. A new database manager known as the Associated Information Management system was specifically designed to handle the genealogical data to be included in FamilySearch. The prototype was first made available at the Family History Library in 1986. Originally, the system was designed to be on-line, but concerns about telecommunication costs and security dictated another means of distribution. The answer was found in the emerging compact-disc technology, first demonstrated to Department management in 1985.[80] The Department produced a compact-disc prototype of the Family History Library Catalog in 1986, followed by disc versions of International Genealogical Index and Ancestral File.

In 1989 the compact-disc version of all these databases, now called FamilySearch, was tested at the Family History Library and seven family history centers. With the technology available and the program defined, the Department proposed that computers and disc readers be distributed to all family history centers and Church meetinghouses. The proposal was approved.

The automated catalog, the automated International Genealogical Index, and Ancestral File were developed concurrently, but separately from one another. All of these database projects were unified in the product released as FamilySearch. In time, other elements were added: TempleReady, the Social Security Death Index, and Military Index (U.S. military deaths in Vietnam and Korea). The latter two indexes are databases created by the U.S. government and are in the public domain. The Department created search software to provide easy access to the information.

FamilySearch was announced to the Church in a letter from the First Presidency dated 2 April 1990. With this announcement, the computer came of age as a key genealogical tool for every Church member. While 2,000 machines were purchased or distributed to local Church units from 1985 to 1988 for local administrative purposes, almost 3,000 were added in 1989, and about 3,000 more in 1990. Of these computers, 1,725 were dedicated to family history programs, including Family Record Extraction as well as FamilySearch.[81]

FamilySearch databases, 1990. FamilySearch makes use of the personal computer to distribute information about millions of names and family history sources.

In 1990 the system was distributed to 627 family history centers in the United States and Canada. A year later, the decision was made to expand the distribution to stake centers without family history centers, to public libraries, and even to the homes of some Church members.[82] At first distribution outside of centers was done to selected sites to permit further field testing of the system. In early 1992, the system began to be shipped internationally, with units going to Great Britain, Ireland, Australia, and New Zealand. By late 1994, systems had been distributed to a total 376 Church sites outside the United States.[83]

In 1990 and 1991, respectively, the Library of Congress in Washington, D.C., and the Victoria State Library in Melbourne became test sites for FamilySearch workstations.[84] Judith Reid at the Library of Congress reported that only minimal effort was needed to teach library patrons how to use the program on their own.[85]

In 1992 the system became more broadly available. The Department signed a contract in March 1992 with Dynix Corporation, an

outside firm, for release of the system to public libraries, archives, and genealogical and historical societies. By late 1994 FamilySearch was available in over one hundred libraries in the United States, Canada, France, Germany, Ireland, New Zealand, and Great Britain.[86]

On a test basis, FamilySearch was distributed to approximately forty home sites in late 1992.[87] Further testing of the mechanics of distributing and pricing the product to the home market occurred in 1994, reaching over eight hundred homes in the United States and Canada.[88]

Even with the tremendous capacity of compact discs, the databases on these files were so large that using the system required a good deal of "disc swapping" in and out of the disc reader. This inconvenience was eliminated at the Family History Library, the FamilySearch Center, and Brigham Young University by the installation of a local area network (LAN) in late 1991. For family history centers, significant progress was made in 1993 with the implementation of new techniques to further compress the data so that more would fit on each compact disc.

The response to FamilySearch was enthusiastic. The system provided convenient and quick access to large amounts of information. The user could print out the information or transfer it to diskette for personal use. At a demonstration of the system in Stockholm in 1990, an archivist searched his own lines back to the twelfth century. He compared a published pedigree with the file and found no discrepancies, except that the file extended the line back further than the book. Many European archivists who saw the system demonstrated that year "were visibly moved" by its capabilities.[89]

From the beginning, extensive efforts had been made to design the system to accommodate widely diverse users, to be forgiving of errors, and to be self-instructional. Still, some problems required one-of-one help. In December 1991, the Department consolidated its Personal Ancestral File and TempleReady customer support units to handle telephone requests for help in using all products.[90]

Computer Complexities

The advent of the computer in family history work has greatly expanded genealogical activity in the Church. It has provided tools

for everyone to make significant contributions to family history work. But even though the computer has become a dominant and beneficial tool, it is not a panacea. Corrupted information in Ancestral File is difficult to detect; TempleReady uses an incomplete database of temple ordinance work, resulting in the occasional clearance of duplicate submissions. There is still a time lag between the completion of new ordinance work and the entry of the data either to the International Genealogical Index or Ancestral File, and Church members can submit names from Ancestral File that are missing ordinance dates.[91] From Ancestral File hundreds, if not thousands, of submissions can be quickly generated, but if members bypass research altogether and simply focus on clearing names from this file, extensive duplication will certainly occur before the files can be updated.

At the same time, some people are computerphobes, always fearing the worst as they try to become familiar with computer technology. Many anecdotal stories tell of problems coping with the new technology, such as those that occur when users do not understand basic computer routines, file management, or the proper treatment of diskettes. In one extreme example, an older person in Salt Lake County tried to record the data by rolling a floppy diskette into a typewriter and typing on it, then wondered why the computer could not read it. Such incidents only serve to illustrate the trepidation and lack of understanding with which many people enter the computer world.

The majority of Church members are still without computers in their homes. The Church is rapidly expanding into countries where computers are rare, where only manual systems will function, and where basic texts must be translated before even the rudiments of the family history program can function. Aware of this, the Department has focused efforts on simple manual systems for such areas.

Despite these problems, the computer holds great promise. Automation is taking family history work out of the library or archive and into the home. The edges of this possibility are only dimly visible at present because the technology to reach them in any comprehensive fashion is not yet widely available. Nevertheless, the potential of what can be achieved through technology

was expressed by Church president Howard W. Hunter in his address at the centennial commemoration of the Family History Department on 13 November 1994:

> In recent years we have begun using information technology to hasten the sacred work of providing ordinances for the deceased. The role of technology in this work has been accelerated by the Lord himself, who has had a guiding hand in its developments and will continue to do so. However, we stand only on the threshold of what we can do with these tools. I feel that our most enthusiastic projections can capture only a tiny glimpse of how these tools can help us—and of the eternal consequences of these efforts.[92]

NOTES

[1]Eleanor Knowles, *Howard W. Hunter* (Salt Lake City: Deseret Book, 1994), 189, quoting Howard W. Hunter, personal journal.

[2]Some information not specifically documented in this and later sections is based on the personal knowledge of Kahlile Mehr, who had discussions with various Genealogical Society administrators over time, who was personally involved in some of the events and programs discussed, and who has studied the various internal reports of the Department that are compiled for official use only.

[3]George Fudge, oral history interview by Bruce Blumell, 1976, typescript, James Moyle Oral History Program, Archives Division, Historical Department, The Church of Jesus Christ of Latter-day Saints (hereafter cited as LDS Church Archives), 17; George Fudge, oral history interviews by John Jarman and George Durrant, 31 May–31 July 1984, typescript, copy in the possession of Kahlile Mehr, 27–28, 37–38.

[4]This opportunity was preserved in the new system. Family sealing lists could be requested, allowing people to have families sealed at the same time. See Fudge, 1984 interview, 34.

[5]Fudge, 1984 interview, 29, 31.

[6]Martel Gee, personal interview by Kahlile Mehr, 10 September 1993.

[7]John Jarman, telephone interview by Kahlile Mehr, 19 March 1993.

[8]Jarman, interview.

[9]Leadership Council Minutes, 21 August 1990, Family History Department of the Church (hereafter cited as FHD).

[10]The name was changed to TempleReady in early 1991.

[11]Leadership Council Minutes, 24 September 1991.

[12]Leadership Council Minutes, 6 January 1992.

[13]Leadership Council Minutes, 5 November 1991.

[14]Fudge, 1984 interview, 140.

[15]*Memorandum*, February 1985, FHD.

[16]*Memorandum*, March 1985.

[17]*Memorandum,* March 1985.

[18]"Temple Ordinance Chronology," reference aid, Family History Library, FHD.

[19]*Memorandum,* November 1989.

[20]*Memorandum,* September/October 1990.

[21]Paul Starkey, telephone conversation with Kahlile Mehr, 26 January 1995.

[22]Fudge, 1984 interview, 49.

[23]Lynn Hollstein, "Pilot Program in St. George Provides Names for Temple Work," *Church News,* 4 February 1978.

[24]Managing Director's Minutes, 20 January 1977, FHD.

[25]Hollstein, "Pilot Program."

[26]Historical Report, September 1977, FHD.

[27]Danish, Norwegian, Swedish, Icelandic, and French records were extracted by paid staff until 1982. *Memorandum,* June 1987, FHD.

[28]"Survey Summary of the Record Extraction Program," 1 May–25 June 1979, in Historical Report, June 1979, FHD.

[29]Historical Report, December 1978.

[30]*Memorandum,* August 1985, FHD.

[31]Employee meeting, Family History Library, 6 February 1991, notes in possession of Kahlile Mehr.

[32]Historical Report, October 1982, FHD.

[33]Management Meeting Minutes, 1 August 1983.

[34]Historical Report, April 1983, FHD.

[35]Management Meeting Minutes, 18 July 1983.

[36]Managing Director's Minutes, 5 January 1977, FHD.

[37]Management Meeting Minutes, 30 March 1981.

[38]Management Meeting Minutes, 12 November 1984.

[39]*Memorandum,* January 1988.

[40]Managing Director's Minutes, 16 May 1989.

[41]Managing Director's Minutes, 12 September 1989.

[42]Hartman Rector Jr. (address given at employee meeting, 3 November 1993), notes in the possession of Kahlile Mehr.

[43]Management Meeting Minutes, 6 May 1975, 16 August 1978.

[44]There were also editions in 1976 and 1978.

[45]*News of the Family History Library* 1, no. 1 (July/August 1989), FHD.

[46]"Sources of Names in the International Genealogical Index," internal FHD document compiled by Elizabeth L. Nichols, 17 September 1992.

[47]*News of the Family History Library* 5, no. 4 (Fall 1993), FHD.

[48]Paul Starkey, personal interview by Kahlile Mehr, 27 August 1993, notes in possession of Kahlile Mehr.

[49]"Cooperation with Nonmembers to Compile Lineage-Linked Records of the Families of Man," Director's Council Minutes, 6 June 1989, FHD, typescript.

[50]*Memorandum,* March 1992, FHD.

[51]Anthony J. Camp, lecture, 6 October 1994, Salt Lake City, notes in the possession of Kahlile Mehr; "British-Scottish 1881 Census Project Production Update," 6 December 1994, FHD.

[52]Founded in 1976 as an umbrella organization to coordinate on the national level the work of genealogical societies and family history organizations in the United States.

[53]Family group sheets received after 1 July 1979 were kept separate from those received earlier. Only the later group sheets were included in Ancestral File.

[54]Management Meeting Minutes, 1 July 1981, FHD.

[55]The section began as the Royalty Identification Project in 1968 and became a unit in 1972. It was renamed the Medieval Families Unit in 1988. Robert Gunderson, the original supervisor, continues to serve in this role today.

[56]The software was called Original Data Entry (ODE).

[57]David M. Mayfield to Family History Library Professional Staff. 17 February 1988, copy in possession of Kahlile Mehr.

[58]10.3 million names were submitted, but they included the names of the living. Information on living individuals had not been entered at first. Later, the decision was made to enter data on the living but to display the names only of Church members and to display the term "Living" instead of names for those without an LDS baptism date.

[59]John Jarman to Executive Directors, 25 May 1989, Director's Council Minutes, 23 May 1989, FHD.

[60]*Memorandum,* November/December 1992, FHD.

[61]"Enabling Members Transition Team," 1 September 1993, internal document, FHD, typescript, 2–3.

[62]"Enabling Members," 2–4, 6.

[63]"Genealogical Department Third Quarter Report, 1984," internal FHD document in possession of Kahlile Mehr.

[64]Greg Brown to Kahlile Mehr, memo, November 1994, copy in possession of Kahlile Mehr.

[65]*Memorandum,* December 1993, FHD.

[66]Blair Keddington, telephone conversation with Kahlile Mehr, November 1994.

[67]Management Meeting Minutes, 3 January 1984.

[68]"Feasible Ideal System Target (FIST) for the Genealogical Society Library System," October 1972, FHD, typescript.

[69]English summary notes were added to records cataloged in a foreign language.

[70]Melvin Olsen to Kahlile Mehr, 15 October 1993, letter in the possession of Kahlile Mehr. An authority is a standardized spelling of a person, place, or thing. An authority is used so that all sources referring to that thing are located in the same place in the catalog.

[71]Melvin Olsen, telephone interview by Kahlile Mehr, 5 October 1993.

[72]In batch-mode processing, transactions are put in a queue and processed all at the same time, usually after hours. In real-time, transactions become effective when they are made.

[73]Micrographics Division Managers Council, 9 November 1982, FHD.

[74]Dennis Meldrum, telephone interview by Kahlile Mehr, 11 October 1993.

[75]Robert Gunderson, telephone interview by Kahlile Mehr, 11 October 1993.

[76]Gary Christiansen, telephone interview by Kahlile Mehr, 21 April 1993. Christiansen was in charge of data entry for Family Registry.

[77]The fiche set of submission forms was not sent out with the index after July 1985.

[78]Gary Christiansen to Michael Petersen, memo, 16 April 1993, FHD.

[79]*Memorandum,* May 1985, FHD.

[80]Managing Directors Meeting Minutes, 12 March 1985, FHD.

[81]Fred Lundberg, "Estimates of Local Unit Computers—Full Systems: Stakes, Meetinghouses, and Family History Centers; United States and Canada," 21 February 1992, internal document, FHD, typescript.

[82]Leadership Council Minutes, 22 March 1991.

[83]"International FamilySearch Shipments," 23 November 1994, internal FHD document in the possession of Kahlile Mehr.

[84]"Family History Quarterly Report," 15 May 1991, FHD, typescript.

[85]*Memorandum,* September 1991, FHD.

[86]Greg Brown to Kahlile Mehr, memo, November 1994, in possession of Kahlile Mehr.

[87]Leadership Council Minutes, 14 December 1992, FHD.

[88]Greg Brown to Kahlile Mehr, memo, November 1994, in possession of Kahlile Mehr.

[89]*Memorandum,* November 1990, FHD.

[90]*Memorandum,* December 1991.

[91]*A Member's Guide to Temple and Family History* Work (Salt Lake City: The Church of Jesus Christ of Latter-day Saints, 1993), 13.

[92]Howard W. Hunter, "We Have a Work to Do" (address given at Family History Department Commemorative Fireside, Salt Lake City, 13 November 1994), FHD, typescript, 4.