AUTOMATION IN THE PUBLIC LIBRARIES
OF LAKE COUNTY, INDIANA

Lorin R. Burns

Four years ago Lake County Public Library had the rare opportunity of planning, organizing, and developing a county system along the lines of regional library operation. No restrictions were placed on method, nor was traditional operation required.

Prior to this time, nine small libraries spread over approximately 125 square miles had contracted for service from a nearby municipal library. As a general rule, the standard of service was rather poor, with but a token book stock, dilapidated buildings, a staff with no training nor any future prospect of such, and from twelve to twenty hours of service a week. Naturally, the communities wanted better library service. To obtain better service it became necessary to discontinue contract service and to establish a separate system.

After the initial break was accomplished, libraries of all types throughout the United States were contacted in an effort to obtain procedures, systems, and ideas on how to approach the problem of giving the best possible service while operating within a relatively small budget. From this beginning, and other probing techniques, we have developed our present system; it is from these ideas, which have further germinated, that our unique and increasingly effective system of operation has been developed.

What has been accomplished in four years has far from exhausted the potential, but a number of interesting results have already been achieved.

Each one of our libraries, situated in small but distinct population centers, is conceived and treated as an individual community library, in so far as responsibility for community service is concerned. There is no large central library with its usual function. Rather, a very small administrative and technical processing center takes care of general administration, acquisitions, book processing, registration, and circulation control among and for the community libraries.

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Co-ordinating sections with their respective expert professional personnel in the areas of children's work, reference, and adult education are utilized to plan, co-ordinate, and instruct in their various spheres of activity.

The entire holdings of the library system are considered a single collection. Much, of course, is duplicated in each library; however, little used but necessary books or very expensive items can be purchased in single copies and can be utilized by the entire system. This is not only an economy reflected in the book budget, but it is highly effective in the conservation and best use of the all too little shelf space, a universal library problem.

All libraries in our system are connected through a closed circuit teletype (TTY) so that immediate and recorded communication is at all times possible. Not only is this method of communication highly effective over a wide geographical area, but it is also surprisingly inexpensive. TTY is used to accomplish circulation control, registration, administrative directives, monthly status reports, panic button pushing, informational and reference requests, as well as a dozen other daily uses. Daily courier service throughout the system is, of course, a necessary supplement.

Machine processing, which is a vital part of our operation, is accomplished efficiently and economically through the use of IBM equipment. The adaptation of these machines to library operations is, of course, not new with us. Others saw the adaptive potential and pioneered in the use of electronic machines in library operations several years ago. The principles they outlined were simple and easily adaptable; however, we early recognized that an IBM machine has no greater validity for a library than has a pencil. Both are simply tools for the accomplishment of a library operation, and like all tools they are only as effective as the individuals using them.

For many years librarians have been experimenting with time- and labor-saving methods, with amateur zeal and with condign results. They have tried to reduce costs, to reduce the number of personnel required properly to provide service for rapidly expanding populations and with the best will in the world, but unfortunately without utilizing the very willing, highly trained professional help and facilities available to them. In most cases, they simply were not aware that such help existed.

We are all aware, some of us very vitally, that there is a serious shortage of trained librarians, scholars, and knowledgeable technicians in the United States. Recruitment can do a great deal, possibly, but it is certainly not the immediate answer in a modern, rapidly expanding, technological society. One possible alleviation to the shortage of librarians, which is simply a shift in another direction, is through the utilization of "centralized librarianship"—if you want to use this
term in connection with modern equipment, data processing machinery, and co-ordination of lesser trained library personnel under the controlled supervision of professional specialists.

Once this basic concept of utilizing certain types of machinery for library procedures is accepted, then the experimentation and evolution of library techniques can be assured and the realization and accomplishment of their potential can be explored and achieved. Much of the traditional training of librarians can be utilized more effectively, and service to the public in the collection, storage, assimilation, and distribution of ideas can be streamlined and made much more efficient and much more economical. This type of service can be accomplished with a cadre of trained, skilled, and educated librarians.

However much this degree of efficiency is to be anticipated, it is not what we have at the moment. As a consequence the profession as a whole is in somewhat low repute. The entire complex of librarianship as it has traditionally been understood—if not willingly accepted—is not going to be too greatly changed insofar as the general public is concerned. The service librarian at the desk is still going to be a vital link in any method of library operation. But behind the scenes the selection and supplying of the books, which contain the ideas which the librarian at the desk must draw upon to help library users, is going to be vastly changed. As knowledge increases, the cataloging situation is going to be more and more important insofar as the users of the library are concerned—whether they be children in school or young people in college or the average adult citizen who should, and we hope will, use the library. The cataloging situation can be made simple and relatively inexpensive. This is an aim which we have attempted. It is not very difficult to catalog books for a public library; what is more difficult is to encourage people to use the catalog properly.

Through the planned and intelligent use of punched card equipment it is possible to employ staff members who have little or no formal library training or experience. With proper supervision these individuals can prepare and maintain a union catalog for all libraries within a system, prepare cost analysis reports and purchase orders, process books, and maintain registration statistics. Also, they may conduct reader or survey analysis and other computations as they are needed, usually at a greatly reduced cost.

It is, of course, necessary for both the technical and professional people to work in close harmony, and to insure proper functioning it is necessary to establish certain requirements. One of our first applications of this revised program is in the selection of personnel for operation of the IBM machines. We made the same mistake many new IBM installations make in using inexperienced machine operators.
It is desirable to have machine operators with a background of literature—but because this combination is often difficult to locate, high competence in machine operation is of greater importance than a literary background.

As a result of our experience, we have established what we consider to be minimum standards for our machine room supervisor. We require graduation from an accredited IBM operator's school, two years of college, a knowledge of library operations, and a minimum of two years of actual experience on the machines. Keypunch and other machine operators must have relative education and experience.

The use of IBM machines in libraries is comparatively new. However, the concept of electronic data processing—which has been used successfully in business administration for about fifty years—is not. The use of electronic data processing in the libraries is largely a matter of applying proven systems and techniques to library requirements.

The IBM equipment at Lake County Public Library consists of one #082 Sorter, one #026 Keypunch, one #403 Tabulator-Printer Unit, and one #087 Collator. We have four full-time employees, and we process in the neighborhood of 2,000 books a month. We also order on the average of 1,400 books a month, not including standing orders and gifts, and do other routine and repetitive work, such as registrations and catalogs for all the libraries in our system.

Three people other than the Director are authorized to order material. They are the Children's Librarian, the Reference Librarian, and the Supervisor of Circulation Control. When the ordering of a particular book is desired, the person ordering the book indicates the number of copies desired and, when possible, pre-codes and classifies the book. This notation is done on the margin of the original document in which the review or listing was found. This document is given to technical processing personnel, who check our main entry file to ascertain that we do not already have copies available or to determine the number of copies already in the system. The open order file is checked to insure that no duplicate orders are prepared. Without further checking at the order source, the source document is then converted into punched card form.

The keypunch, which has a keyboard similar to that of a typewriter, is the basic machine for all punched card operation. This machine will automatically duplicate or reproduce, automatically skip from one column to another, print the punched information on the top border of the card, and feed blank cards into the machine. The speed of the cardpunch, as with any electric typewriter, is entirely dependent upon the speed of the operator. The faster the operator types, the faster the machine operates.
The keypunch operator prepares one card for each copy of the book being ordered, and in the instance where there is no main entry, a new main entry card is prepared. If there is a main entry card, it is pulled and the number of copies changed to reflect the additional copies to be ordered.

Incidentally, contrary to popular belief, the keypunch is basically simple to operate, and we have trained typists to become operationally competent and skillful in its use.

The main entry card is returned to its file. The locator cards are sorted into author-title sequence, using the Sorter, the machine which will mechanically place cards in one position sequence at the rate of 400 to 450 cards per minute.

After the locator cards are in sequence, the purchase order listing is prepared on the Tabulator-Printer Unit. This machine is controlled and operated by means of a control panel which, when properly wired, will direct the machine to add, subtract, and print information contained in the punched cards at the rate of some 150 lines of print per minute.

On the purchase order we list only the first card of each author-title group, the total number of copies of each book being ordered, the cost per book, and the total cost per title. At the bottom of the last page of the printed order, we indicate the total number of books being ordered and the total amount of the order.

Using the Collator, the cards are then merged into the open order file, where they are held until the books are received. The Collator performs many card filing and selection operations. It can simultaneously feed two sets of numerically punched cards, merging the matched cards and selecting the unmatched cards. During this process, the machine can also check the sequence of the primary file of cards.

Upon receipt of the books from the jobber, we select from the open order file the card matching each book. We check off the books from the purchase order and send any follow-up letters required. The cards are then run through the Tabulator-Printer Unit, and the book plate, identification stamp, and book card are prepared from them.

The cards and the books are then processed in the manner usual to most other libraries—pockets are put in, plates pasted, etc., with one exception: we continue to use the same punched IBM card for other operations. The books are then dispatched to the proper library and the IBM card filed in the locator file in the Library Center.

As required, we prepare for each library in our system a catalog of the entire collection. The main entry cards, which were prepared when the books were ordered, are run through the Tabulator-Printer Unit and in three passes of our main entry files, we prepare a subject catalog, an author catalog, and a title catalog.
All the libraries in the Lake County Library system share in a growing book collection, which is being built to provide a basic collection sufficient to serve a quarter of a million population. A union catalog in book form, in single or multiple copies as required, is furnished to each participating library; the closed circuit teletype communication provides the necessary means of sharing the common collection as reflected in the union catalog. In addition, as the need arises, due largely to the increase in circulation as a result of the construction of new libraries (four in 1962), we make up a local community library three-part catalog.

It is necessary to accept some compromises, as is expected, in the development of a system for handling a great volume of data. One compromise is to employ only brief entry information and, when necessary, to refer to the complete cataloging available in co-operatively produced bibliographies. Another compromise is to consider the catalog to be simply an updated report of material available in the library system.

This does not mean we have the perfect solution to the preparation of our catalog. The type of catalog librarians are now utilizing is the result of many experiments over the years, and librarians will need to continue such experiments until even better results are obtained.

The first catalog in the Lake County Public Library contained only the new books added to the system since the conception of a centralized system; it was difficult to read, expensive to produce, and incomplete. Last year we developed the system which we are currently using to prepare the catalog. First, we completed a physical inventory of all holdings; then we completed a catalog of these holdings. This was a long and expensive operation involving six months of labor. But it was a point, when reached, from which we could not retreat.

When the Lake County Public Library began functioning as a separate unit in 1959, we were faced with the problem of immediate operation. Consequently, we ignored the fact that approximately 30,000 uncataloged volumes were already on the shelves of our libraries and started our routine of operation.

In 1962 we decided that we were at a point at which it would be feasible and of urgent necessity to backtrack and to pick up the material we had previously not checked for classification, nor included in our printed catalog. This seemed to be an almost frustratingly insurmountable task to begin with, but as we talked about it, the way in which it could be accomplished became relatively simple. The resolution necessitated a complete understanding throughout by all permanent personnel, a great number of temporary personnel (in our case—volunteer), and overtime shifts worked by technical processing
personnel. The entire operation came off exceedingly well, largely because of adequate presentation to those involved and exact scheduling by the IBM section.

We reproduced our central locator file and sent each library duplicate cards of all IBM-processed material assigned to that library. We prepared two report forms: one to indicate IBM-processed material that for some reason was not matched with a corresponding IBM card, and one to reflect older material that was not IBM-processed.

We closed all libraries for one week and conducted a physical inventory of the holdings in each library, including those out on circulation. When the inventory was completed, the IBM cards were broken down into two groups, matched and unmatched, and were returned to the library center with the corresponding report forms.

At the Library Center we checked all the matching cards against our locator files. We then destroyed the inventory cards which matched the material in the libraries. We sorted down the unmatched IBM cards from the libraries and checked them against the list of IBM-processed material which had no IBM card. The correct location code was then placed in the locator card and the cards were returned to the file.

This operation left us with the report of unprocessed material. The reports were keypunched onto IBM cards, which were sorted and matched against the main entry cards to insure that we had a main entry card for all material in the system. The cards were then placed in our locator file. All of the locator cards were then matched against the main entry to ascertain that we had a complete record of the material available in our system.

This operation took six months to accomplish, but from the effort expended, we now have a union catalog reflecting all the material in our system. Although our catalog is still being refined, even in its crude state, it is invaluable to our operation. The principal refinement needed is that of co-ordinated abbreviations.

If a request is received in a library which does not have the book, the catalog is checked to see if the book is in our system. If it is, the request is placed on teletype. Library Center will check the locator file to determine the location of the book and will notify libraries in possession of the book as to the desired loan. The book is dispatched by courier to the requesting library. Our courier is on a rigid time schedule, visiting each library at least once a day to pick up and deliver books, fines, correspondence, records, films, etc. As a result of this combination, we serve our patrons as rapidly as possible at a minimum cost.

In addition to preparing purchase orders, processing books, and preparing a catalog, the technical processing section also prepares new borrowers' cards and compiles community statistical information.
When a patron expresses a desire for a library card, he is asked to fill out an application card, which is forwarded to the Library Center where it is converted to a punched card. After the library cards are prepared, the punched cards are placed in the registration file for future use.

At the present time our community librarians are manually charging out books. Using our book card and library card, we can easily convert to a photographic charging system when our circulation justifies the cost.

When a book is overdue, the librarian teletypes the patron's registration number to the Library Center. We pull the corresponding card from the file and prepare overdue notices. The card is then returned to the registration file. One great advantage of using punched card registrations is the mass of community information which can be accumulated and used to determine locations of new libraries, types of material required in the area, information for book selection, and so on.

By comparison with the costs of operating a manually operated system, the costs of maintaining the IBM portion of this system are relatively small. There are some attachments on the Lake County Public Library's machines that might not be necessary elsewhere. On the other hand, attachments are available which are not used at our library, but which other libraries might want for additional operations, such as statistical studies on subject use and borrowers. Such costs are not detailed here because they are not incurred in the basic procedure. At the present time, twenty-eight man-hours per day, or about 5,600 man-hours per year, are expended for the IBM processing operations. Personnel costs are variable for each area; consequently, these cost figures can be used only as a rough guide.

Libraries with a newly instituted IBM system, but without previous IBM machine experience, will probably have to plan for a greater number of hours for the initial data processing operations. Like all systems, a routine of operation and a solidification of procedures is necessary for efficient expenditure of time and money. The monthly and annual expenditures for our IBM installation are:

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Varying local situations create differences in policies and procedures, and librarians will need to determine for themselves the changes they must make to suit their own circumstances. Because this system is proving successful at Lake County Public Library, other libraries may find it equally well suited to their needs. However, IBM machines afford great flexibility, and this way is not the only possible way.

The advantages of using modern data processing machinery are many. The elimination of typed book cards is a saving in time as well as in supply and personnel costs. The elimination of clerical positions for the manual ordering of books is equally advantageous in that it does away with a costly operation and at the same time makes books available more quickly. The preparation and maintenance of catalogs for fourteen libraries certainly constitute a factor for consideration.