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International Standard Bibliographic Description for Serials*

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The development and current status of the International Standard Bibliographic Description for Serials and the implications of its adoption for the Anglo-American Cataloging Rules are reported.

I HAVE BEEN ASKED to give you a brief report on the development and current status of the International Standard Bibliographic Description for Serials, hereafter referred to as ISBD(S). In the twenty minutes allotted to me, it will not be possible to present any depth of detail at all—I intend only to hit the high points. I will speak directly to the points raised in the February statement released by RTSD concerning serials in the context of the criticism which was heard in certain quarters when the International Standard Bibliographic Description [ISBD(M)] for monographs was published. I will respond specifically to each of these concerns, and others that I have heard, later in this presentation.

Let me begin by explaining to you how I, a nonlibrarian, came to be a member of the subcommittee which drafted the ISBD(S). I am a Program Officer of the Council on Library Resources, responsible for the area of library automation and networks.

The other members of the working party were: Jean Lunn, Canada; Paul Chaix, Switzerland; Chris Koster, United Kingdom; August van Wesemael, Netherlands; Gunter Franzmeir, Germany; president: Marie-Louise Bossuat, France; secretary: Monique Pelletier, France; and observers: Jack Wells, United Kingdom; and Marie Rosenbaum, ISDS, Paris.

The various drafts were commented on by representatives of the


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United States, both Germanies, Belgium, Brazil, Canada, Denmark, France, the United Kingdom, Hungary, Poland, Rumania, Switzerland, the USSR, and Yugoslavia.

I began working with serials systems at the national level in February 1968 when I joined the council staff. My principal duty in those days was to render technical support in the field of automation to the National Libraries Task Force. It soon became evident that, of the ten projects or so being pushed by the Task Force, the National Serials Data Program had the best chances for success, so my colleague from the council, George Parsons, and I devoted almost all our time to it. We helped design, implement and fund the National Serials Data Pilot Project which was conducted by the Association of Research Libraries. I worked as a technical consultant to the Pilot Project every day of its eighteen months of existence. At the conclusion of the Pilot Project, I wrote the Technical Development Plan for the National Serials Data Program which was followed in the implementation of the United States National Serials Data Program (U.S. NSDP). I continue as a special consultant to the U.S. NSDP.

In August 1971, when the International Federation of Library Associations (IFLA) Subcommittee on Cataloging decided to draft an international standard bibliographic description for serials, it was obvious to me that at least three other developments, then under way in the fields of serials, needed to be coordinated with the development of the ISBD (S). These were the U.S. National Serials Data Program, the International Standard Serial Number, and the International Serials Data System (ISDS) in Paris. It was also clear that the Anglo-American Cataloging Rules, as these pertain to serials, would probably have to be examined, after the ISBD (S) final draft was in hand, to see whether these rules needed to be modified in the light of ISBD (S).

First, let’s look at the International Standard Serial Number (ISSN). This identification code for serials has been adopted already as the American National Standard, and it is at this moment out for balloting as the International Standard. I predict its final acceptance this year. It was clear that the serial record to which the ISSN was affixed was bound to have data elements in common with the ISBD (S). I was a member of the international working party which got international acceptance of the American national standard serial number. I wrote the first draft of the international standard.

As the ISSN moved toward adoption, an international system for the application of this identifier was designed and implemented. The International Center is in Paris at the Bibliothèque Nationale. To help insure that the development of the U.S. NSDP and the ISDS coincided as necessary, I was appointed as a technical consultant to the ISDS. Incidentally, UNESCO, the sponsor of the UNISIST program, under which the ISDS was developed, offered the International Center to the United States. The offer was made to the Library of Congress, but funds were not readily available, and the French beat us to the punch. So, the center is
in Paris, and the ISDS is jointly funded by UNESCO and the French government.

As the development of the U.S. NSDP, the ISSN, and the ISDS converged on the development of the ISBD (S), I was asked by the chairperson of the ISBD (S) subcommittee to represent the United States, principally because I was involved in all of these activities. Since the chairperson speaks no English, it helped that I speak French.

My reason for accepting the assignment was that, at first, ISBD (S) was apparently not being coordinated with these other developments I have mentioned. It also seemed to me that the ISBD (S) draft was moving too fast. The original time schedule included publication of the final draft in mid-1972. It will now come out later this year.

With that as background, let me tell you now about the chronology followed by the ISBD (S) drafts to date. Some people have been critical of the process. Let me assure you that it has followed the rules laid down by IFLA. As I have mentioned, the IFLA Cataloging Secretariat, meeting in Liverpool in August of 1971, decided to follow the standard for monographs with one for serials. It was decided to follow the same record structure for serials as had been used for monographs, with the data elements in the same order, insofar as was possible.

In November, a group met in Berlin to work on the preliminary design for the International Serials Data System. As a member of that group, I recommended the invitation of representatives of the ISBD (S) secretariat. It was at this meeting that it was decided that, whenever the data elements in the serial records of the ISBD (S) and the ISDS (and from my point of view in the serial record of the U.S. NSDP) coincided, these elements, and their definitions and tagging, must be identical.

In February 1972, the first draft of the ISBD (S) was prepared and circulated among members of the working group. Following the charge from IFLA secretariat, this first draft followed the format and element sequence of the ISBD(M) almost exactly. It is my personal opinion that, at this point, some people were believing, or at least hoping, that serial records created under ISBD (S) could, when in machine-readable form, be processed by the same computer programs which handled monograph records, without the necessity for modifying these programs. Nothing could be further from the truth. The principal difference in the machine handling of monographic and serial records comes in the areas of title and author; more about that later.

In April 1972, the ISDS group met in Vienna. Representatives of ISBD (S) were present. After this meeting, the second ISBD (S) draft was prepared and circulated to the working group. In June of that year, 100 copies of the second draft were circulated for comment among users of serials and library associations. Three hundred copies were made available during the IFLA conference in Budapest. At about this time, it became evident that, if the ISBD (S) slavishly followed the ISBD(M), the complexity of serials would require a document so full of explanations, footnotes, exceptions, and cross-references, that it would be capa-
able of being understood only by those who had written it.

The third draft was written during a working group meeting in Paris in November 1972. This draft was circulated only to the members of the working group. By consensus of the group, it was decided that, if the “key title” concept of the international system was to be accommodated in the ISBD (S), some departures would have to be made from the exact format of the ISBD(M). I will tell you later which data elements are in what sequence in the ISBD (S); for now let me just tell you about the key title, since it caused the most problems.

The entire philosophy of the application of the ISSN to serials hinges on the key title; the ISSN is assigned to the key title, and when the key title changes, the ISSN changes. A little reflection on the nature of serials will reveal why this must be so. Under the cataloging rules, as they are applied in many places, no title for serials is both consistently applied and sufficiently unambiguous to form the basis for the ISSN. For example, the title field in serial cataloging often contains only the generic word, such as Journal, Acta or Review. Obviously this is not distinctive. The title as it appears on the piece is more nearly distinctive, but, because of the way the rules are written, it is not applied consistently. When this title is used, sometimes the generic word (e.g., Journal) appears first, sometimes last, depending on where it appears on the piece. The matter of distinctive title for serials is further complicated by the various ways in which corporate authors are entered in different libraries and by the fact that not all libraries catalog serials by successive entry. All of this was taken into account in the development of the U.S. NSDP and the ISDS. Since the ISSN had to be affixed to an unambiguous title, and since no cataloging title was completely unambiguous, a new concept, called key title, evolved.

The rules for establishing key title are quite simple, and their application results always in a title that is unique for each serial. These rules go like this: When the title as found in the piece is completely distinctive, it is used as key title. If the generic word is grammatically linked to the name of the issuing body, it appears in the key title just as it is found in the piece. If the generic word is grammatically separate from the name of the issuing body, the generic word always appears first in the key title, followed by the name of the issuing body, irrespective of placement on the cover or title page. If the title as it appears on the piece is not completely distinctive, sufficient words are entered into a key title subfield to make it distinctive, for example, London, Christmas edition, or 1915.

It seemed to us that the title used as the principal serial identifier in the ISBD (S) had to include the key title unless there was forever going to be two systems of cataloging for serials in each country, one for the national bibliography and one for the national center in the ISDS. This decision resulted in the present structure of the ISBD (S).

In November 1972, the working group met again in Paris. Due notice was taken of the comments received after the wide distribution of the
second draft. I should say, at this point, that I took pains to see that the Library of Congress (LC) had the opportunity to comment on all versions of the drafts except the one circulated only in the working group. I also sent copies of all my comments on the draft to Sumner Spalding at the Library of Congress. The secretariat received comments from Henriette Avram, Sumner Spalding, Leo Rift, Ake Koel, and Edmund Hamann, in addition to my own.

In December 1972 and 1973, the fourth and final draft was prepared by the secretariat. Mrs. Lunn of the National Library of Canada translated the official version into English. It is now being published and will be widely distributed for comment.

Just as was the case with the ISBD(M), the ISBD(S) defines the data elements necessary for the identification of serials and fixes the order of these elements in the bibliographic record. Its primary purpose is to permit the creation of a consistent serial identification record in the national bibliographies, but information is included which will be useful in serials catalogs.

The choice of data elements and the order adopted for them is based on the work done on the ISBD(M), taking due notice of the key title concept and the other differences inherent in the bibliographic descriptions for serials and monographs. The title field in ISBD(S) was given extra and painstaking attention. Please note that some national bibliographies will enter serials by title and ISSN. The final version of the ISBD(S) has received the complete approval of Mme. Rosenbaum, the director of the International Serials Data System in Paris.

After all this work and talk, what does the ISBD(S) look like? Let me tell you briefly by naming the data elements in the order in which they appear:

1. Distinctive Title. This is the principal title of the ISBD(S), and it is completely compatible with key title.
2. Parallel title, subtitle, and other titles.
4. Place of publication.
5. Name of publisher.
6. Dates and numbering.
7. Place of printing.
8. Name of printer.
9. Illustration statement.
10. Size.
11. Accompanying material.
13. Notes area.
14. ISSN and price.

Each element of the ISBD(S) is indicated by prescribed punctuation. The punctuation symbols are prescribed in detail at the head of each area of the ISBD(S). Other punctuation is at the discretion of the cata-

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In summary, let me give you my considered professional judgment concerning the ISBD (S), with particular regard to the concerns expressed by RTSD last February. It is my opinion that the ISBD (S) followed the international standard for monographs just as far as was possible, given the complexities of serials and accepting the fact that the standard had to be compatible with the key title concept. It is my judgment that the ISBD (S) is compatible with the identification of serials for the assignment of the ISSN as this will be done in the U.S. National Center and in the International System. The use of the key title and the ISSN is going to cause a revolution, some changes are going to have to be made in the way serials are cataloged. In my opinion, the minimum changes required are these: catalog by successive entry, no superimposition, include key title, and include ISSN. Wherever the Anglo-American Cataloging Rules or current practice are at odds with this, it is my judgment that they will have to be changed.

I believe that we got all that we could reasonably expect in this enterprise: the U.S. Standard Serial Number has become the international standard. The ISBD (S) incorporates the key title which is basic to the assignment of the ISSN and the whole international system; we got agreement to use the MARC serials format in the international system. We did not get everything we wanted, but if we are going to cooperate internationally, we will have to accept some compromise. It would have been better, for example, if the distinctive title had been in all cases identical to the key title. I believe that we can live with the 5 percent or so of cases where a note will be required to make the key title and the distinctive title coincide.

Let me end on this note. If anyone designs a serials system after today without taking due notice of the ISBD (S) and without providing for the inclusion of the key title and the ISSN, he has not been paying attention.
Foreign Currency Exchange Problems
Relating to the Book Trade

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Currency problems relating to the purchase of books from foreign countries are examined. The basic problem is to decide which currency will be used in these transactions, and how to reach agreement with vendors on this point. Current practice is uncertain, and recommendations for more accurate practices are made.

The Problem

The situation in the library world with regard to the currency used to purchase foreign publications is extremely confused. Consider this typical transaction:

A British publisher lists the price of a certain book as one pound. This price is noted by an American library wanting to purchase the book. But the American library is accustomed to transacting business in American currency. It, therefore, converts the pound into dollars using the most current exchange rate available to it. The British vendor receives the order and prepares his invoice. But since he is accustomed to selling in pounds he bills in pounds. The library receives the shipment and approves the invoice, but prepares the check in dollars. The vendor then receives the check and converts it into pounds. What has happened in this financial tragi-comedy is that throughout the whole transaction the two parties have never agreed upon the basic point of which currency is to be used, the pound or the dollar. As a result neither party is ever quite sure exactly how much the book costs, because cost must be stated ultimately in terms of one currency or the other. The sales transaction then, from a legal point of view, becomes a kind of bargaining over price at every major stage of the transaction, with the ever present option of one party calling the whole thing off. Only when the vendor finally cashes the library's check and takes no further action can we say that the two parties finally agreed to deal in American currency.

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The Unstable Condition of the International Currency Market

The problems inherent in this situation have always been present, but since 15 August 1971 they have assumed more serious aspects. On that date President Nixon broke the tie of the dollar with gold by refusing to exchange gold for the dollars turned in by foreign countries. This action also, for a time, suspended the system of fixed exchange rates which had been in effect since the Bretton Woods agreement of 1944. The dollar was allowed to float in relation to foreign currencies. Thus, a librarian ordering a foreign publication was never sure how many dollars the publication would eventually cost. Then, on 18 December 1971 the situation was stabilized to a degree when the president agreed to devalue the dollar. The price of gold was increased from $35 to $38 per ounce, a devaluation of 8.57 percent. This action was part of a general agreement among the Group of Ten industrial nations reached at the Smithsonian Institution in Washington to adjust the value of other currencies in relation to the dollar. Some countries, such as France and Britain, maintained the par value of their currencies in relation to gold, and thus their currencies rose in relation to the dollar by precisely 8.57 percent. Other countries, such as West Germany and Japan, did not establish their currencies officially in relation to gold, pending official U.S. devaluation. These countries established temporary "central" rates. Most of them also unofficially revalued their currencies upward in relation to the dollar. On 9 May 1972 the U.S. Treasury officially devalued the dollar by notifying the International Monetary Fund.

A significant part of the Smithsonian agreement was that any country so desiring could allow the exchange rate for the dollar to vary by 2.25 percent on either side of the official rate. For example, the par value of the British pound was fixed officially at $2.60571, but on the exchange market it was to be allowed to fluctuate between $2.5471 and $2.6643. For libraries conducting a considerable business with England this is not an insignificant difference. Under the system established at Bretton Woods a 1 percent variation from the official rate was allowed, but in the book trade the official rate was the rate generally used. The mechanism for supporting the price of a currency within bands (fixed limits) is simple. If the price of a dollar drops below the floor the nation's central bank (the U.S. equivalent is the Federal Reserve Bank) buys large amounts of dollars and drives the price back up. If the dollar is too high the central bank sells dollars to drive the price down.

Unfortunately the Smithsonian agreement of December 1971 did not stabilize the situation to the desired degree. On 23 June 1972, little more than a month after the official devaluation of the dollar, the British found it necessary to float the pound. The following February (23 February 1973) the U.S. again had to devalue the dollar, this time by about 10 percent, raising the official price of gold to $42.22 per fine ounce. In addition many foreign central banks are refusing to support the dollar within the agreed bands. They have too many dollars on hand which

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they do not want because they cannot surrender them for gold. On 19 March 1973 the European Economic Community (European Common Market) announced that its members would support each other's currency within the 4.50 percent bands, but would no longer support the dollar. Other countries have set their currencies afloat. To summarize the situation as of June 1973, the following important currencies (plus other minor currencies) are floating in relation to the dollar:

- Austrian schilling
- Belgian franc
- Danish krone
- French franc
- West German Deutsche mark
- Indian rupee
- British pound (plus the currencies of the other sixteen members of the Sterling block)

Ultimately a currency is worth only what people think it is worth. From this point of view the dollar is in deep trouble abroad, because of such factors as inflationary trends at home, our balance of payments deficit, the Watergate scandal, and the extensive financial commitments which our foreign policy requires. This has brought into serious question the wisdom of basing the international monetary system upon the currency of one country. Talks are now underway to overhaul the system completely and to restore stability, but this overhaul may take years. Until the overhaul is complete, it is possible that further devaluations of the dollar may occur. After the second U.S. devaluation Arthur Burns, chairman of the Federal Reserve Board, said that the U.S. “mustn’t have another” devaluation. His position was supported by Paul Volcker, Undersecretary of the Treasury for Monetary Affairs, who said that the Nixon administration will not devalue the dollar again. These pronouncements might be considered as whistling in the dark by government officials in an attempt to restore confidence in the dollar rather than firm prognostications of the dollar’s future stability. Meanwhile libraries continue to purchase publications from abroad and operate as best they can. Essentially the library is faced with two problems:

1. How to establish the correct dollar price of a foreign publication.
2. How to convince foreign vendors to transact business in American currency.

**Pricing Foreign Publications**

The first step in pricing a foreign publication is to establish the list price. The list price of a book is the price the publisher would charge if the book were bought from him. The list price may be established by examining the usual trade and bibliographic sources, e.g., publisher's announcements and catalogs; national bibliographies; trade publications such as *Books in Print*, press guides (mainly for serials), and LC proof slips (price often given in the foreign currency).
Of course, some of these sources for the list price may also give the price in American currency. This is often true of publishers’ announcements or catalogs distributed in this country. If this is the case the library simply uses the dollar figure. If the list price is in foreign currency only, the library should, for reasons discussed below, convert it into American currency. At this point the difficulties start. There are four rates of exchange for most currencies: official, open market, black market, and commercial.

**Official Rates.** Official rates result from international agreements that define the basic framework of the worth of currencies in relation to one another. Such an agreement was that reached by the Group of Ten at the Smithsonian. The Group of Ten are also members of the International Monetary Fund which has acted officially on the results of the Smithsonian meeting. The official rates established by the International Monetary Fund are based upon the gold content of the currency unit. For example, the British have defined the gold content of the pound as 2.13281 grams. The U.S. dollar after the devaluation of December 1971 equaled .818513 grams. The official conversion rate of the two currencies was derived simply by dividing 2.13281 grams by .818513 grams to obtain the exchange rate of $2.60571 to the pound. Such decisions as these are forwarded to the International Monetary Fund and are reported by it monthly in *International Financial Statistics.*

Some countries are not members of the International Monetary Fund, notably mainland China, Russia, and many Slavic countries. In many of these countries foreign trade is a government monopoly. Some, such as Hungary, have unilaterally established official exchange rates, but since these are not free to fluctuate they are not quoted on international exchange markets. Other countries, such as Russia, have not established official rates because their currencies are for domestic use only. An estimate of the exchange rate can be obtained by comparing the theoretical gold content of the two currencies as shown in the pound example above. To obtain a complete picture of the currency situation in all countries it is necessary to consult a reference guide such as the *Handbook of World Currency.* Many of the sources for the open market rates also list the official rates.

**Open Market Rates.** The open market rate of exchange is the wholesale rate that banks use in buying foreign currency from one another. This rate probably will not be the same as the official rate. For International Monetary Fund countries the open market rate theoretically should stay within the 2.25 percent bands on either side of the official rate. As noted above, however, it often exceeds these bands. There are a number of sources for open market rates, such as *International Financial Statistics,* the *Federal Reserve Bulletin,* and the *Federal Reserve Statistical Release.* Open market rates are also quoted daily in some major newspapers, for instance, the *New York Times* and the *Wall Street Journal."

**Black Market Rates.** For those countries, such as Hungary, which offi-
cially fix the exchange rate, there may also be a black market rate. Since black market rates are technically illegal they are not reported in official publications. Some trade publications, the most important of which is Pick's World Currency Report, attempt to report them, however.\(^\text{11}\)

**Commercial Rates.** Commercial rates are the retail rates used by commercial banks in trading in foreign currency with their individual customers. These rates may be composed of open market rates plus a small percentage to allow for a margin of safety and to enable the bank to realize some profit on the transaction. This percentage may take the form of a slightly higher exchange rate or of a service charge for handling the transaction. Thus, banks can and do quote different rates, and a customer conducting considerable business in foreign currency could reasonably shop for the best rate. As rates between banks vary in this country so also do rates vary between countries. The only way to obtain commercial rates is by direct contact with a bank. Many smaller banks do not quote their own rates but use the rates quoted by their correspondent banks, usually in New York.

Commercial rates are also affected by the method of payment. There are several ways to make foreign currency payments: by foreign check, cable, or air mail transfers, or by foreign currency. For each type of payment there may be a slightly different rate due to the variation in the time it takes to complete the transaction. The more time required to finalize the payment in the foreign country, the more the bank risks a variation in the exchange rate, and the more it will charge its customer.

In summary, then, libraries generally go through all the motions of pricing foreign publications as if they were going to make the payment in the foreign currency, and then, at the last minute, submit the purchase order in the dollar equivalent.

**Transacting Business in American Currency**

Having determined the price in the foreign currency and, as nearly as possible, its equivalent in American currency we must consider now the question of which currency is to be used in the sales transaction. In a fluid situation this becomes a real issue, and the importance of the issue increases in direct proportion to the increase in the fluidity of currency exchange market conditions. The reason for this is the time lag between the placing of the order, preparation of the invoice, and payment of the invoice. Between any of these actions there may be a fluctuation in the exchange rate. When there is a fluctuation, one of the parties will lose money on outstanding invoices, depending upon whose currency is being used. Several examples will show how this can happen.

From 1961 to October 1969 the German mark was set at $0.25 or four marks to the dollar. On 26 October 1969, the mark was revalued upward by 0.29 percent to $0.27322 or 3,660 to the dollar. German vendors had invoices outstanding on 26 October priced at the old rate. If they were paid at the old rate the vendors would not realize the amount equal to the new mark. They had either to take the loss or to send additional in-
voices for the difference. One large book dealer billed for the difference. However, since the dealer's invoices were in terms of dollars (with the marks noted on the invoices also), and since the library purchase orders were presumably also in terms of dollars this dealer had no legal right to issue supplementary invoices and the libraries were not obligated to honor them. Those that did thereby agreed that the transactions were to take place according to the value of the mark rather than the value of the dollar.

The same situation occurred when the dollar was floated in August 1971. The price of the British pound rose from $2.40 to $2.50 and above. One large English dealer sent additional invoices to cover bills prepared at the old price. Libraries which paid them tacitly agreed to see that the vendor would realize the new value of the pound, which is equivalent to dealing in pounds. The library offered dollars, the dealer billed in dollars. Why should the library suffer the loss when the value of the dollar declined?

While it is true that vendors lost money in the above examples the libraries had their turn to lose when the pound was floated on 23 June 1972. The commercial price of the pound dropped immediately from around $2.63 to $2.50 and within a week was down to around $2.45. Invoices outstanding from British vendors on 23 June should have been paid at the $2.60 rate, thus giving the vendors a profit on the exchange at the libraries' expense.

In dealing with foreign countries there is always a choice of currencies in which to conduct the transactions. No matter which one is selected, risk is involved. But there is little doubt that American libraries want to conduct their business in American currency. Neither they nor their institutional business offices are accustomed to dealing in foreign currency. Obviously it is more complicated to deal in someone else's currency than in one's own. So the question is how to require the library's vendors to deal in American currency.

The Currency Is One of the Terms of Sale

Legally a library purchase order is an offer to buy. If the price on the purchase order is in dollars the offer should be taken as an offer to buy in dollars. In order to define this contract further the purchase order could state that invoices must quote the price in, and be payable in, American currency. Such instructions leave no doubt which currency is to be used. Ideally, these instructions should be on each purchase order; failing that, they could be attached to each order or group of orders on a separate sheet.

Definition of other terms of sale may also be included, such as the number of copies of the invoice required, references to tax-free status, requirements of reporting on series.

The legal acceptance of the library's offer to buy occurs at the time of the preparation of the invoice. If the vendor agrees to the library's terms, including the price in dollars, the contract of sale is fixed. Fluctu-
ation in the currency after the preparation of the invoice is irrelevant to the contract of sale.

Failure to Follow the Offered Terms

The vendor may choose not to follow the offered terms of sale. For currency this may take either or both of these forms: calculating the exchange at a different rate, or billing in the wrong currency.

Calculating the Exchange at a Different Rate. The vendor may use a different rate of exchange from the one the library uses. Before the pound was floated in June 1972 one large English dealer distributed to libraries a conversion table showing the pound at $2.65. This was approximately $0.01 from the then upper legal limit of the exchange rate ($2.6643) and was also somewhat higher than the commercial rate. This dealer, in order to protect himself and to throw a cover of stability over the situation, said, in effect, “this is not the actual commercial rate but let us use it for convenience.”

The official rate or the commercial rate might have changed between the time the purchase order was prepared and the preparation of the invoice. In this case the vendor justifiably would want to prepare his invoice at the new rate. He should be able to charge according to the then value of his currency.

In both of the above cases if the vendor’s price is higher than the library’s price, the vendor is technically obligated to quote the new price at which he is willing to sell before shipping and billing. If he does not the library is within its rights to refuse payment. In practice, if the price does not vary too much the library generally accepts the additional charge. It would be virtually unworkable to expect dollar quotations before ordering every foreign publication. By accepting the billing at the higher price the library legally has accepted the vendor’s counter offer to sell at the higher price.

What is to prevent a foreign vendor from simply charging much higher prices for books sold to American libraries in order to insure himself against currency fluctuations? The answer is nothing. Libraries, if they do not like the prices, can buy elsewhere. It is legal for vendors to fix their own prices before the contract of sale is set. Some British firms, for example, do this. It is not, however, legal for vendors to submit additional invoices after the contract has been closed.

Billing in the Wrong Currency. If the vendor bills in American currency well and good. If he lists both his own currency and its equivalent in American currency the library may assume reasonably that the invoice is payable in American currency and that the foreign currency is listed as a matter of convenience. But if the vendor bills in his own currency only, even though instructed explicitly or implicitly to use American currency, he has not accepted the terms of the offer. The library is within its rights to refuse payment and return the publication or to return the invoice with the request that the invoice be re-issued in American currency. If, on the other hand, it accepts the billing, it has, in effect, ac-
cepted the vendor’s counter offer to sell in his own currency. This acceptance also legally obligates the library to submit payment in the foreign currency. If the library pays in dollars it further confuses the issue. It makes another counter offer to close the contract of sale in American currency.

As a practical matter the library may have to distinguish between vendors. Certainly a vendor who is used heavily must be made to conform to the library’s terms. This may be done by sending a letter requesting future conformance or by simply returning invoices. For invoices from private individuals, or obscure or little used dealers, the library may want to pay in dollars and hope that will end the matter. Taking this risk with little used vendors is probably easier than returning invoices or establishing a system for remitting in foreign currency. However, within the last several months more and more of these small vendors are returning checks issued in dollars and demanding payments in their own currencies. In certain of these cases the library may have no choice but to submit payment in the foreign currency if it wants the publication. If American libraries were to take a common stand on this problem, such instances could be kept to a minimum.

Conclusion and Summary

Libraries in the past have not been required to concern themselves to any great degree with problems of foreign currency. As a result they may have been casual about defining or enforcing this and other terms of sale. A good deal of this attitude may stem from the condition that a library does not operate on the profit motive. Its main job is to obtain material for use, not necessarily to be as efficient as possible. But several factors have combined to pressure the library to tighten up business procedures. First, international currency exchange is fluid, a fact which brings problems in establishing prices of materials and in processing invoices. Second, some sources of library financing are exhausted. Any time a money squeeze exists, accounting and auditing procedures tend to tighten. Libraries may be subject more and more to accountability for their business procedures. But, indeed, why shouldn’t libraries know how to transact business properly?

If American libraries agree to the principle of transacting business in the various foreign currencies they face the prospect of:

1. Demands by vendors that payment be submitted in the vendor’s own currency.
2. Additional expense and procedures in paying invoices.
3. Complaints from institutional business offices.

To insist effectively that transactions take place in American currency American libraries can take the following measures:

1. Always state prices on purchase orders in American currency.
2. Instruct foreign vendors that invoices must be priced in, and be payable in, American currency.

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3. Return invoices which are not billed in American currency (or in both American currency and foreign currency) with a request to re-submit in American currency.

4. Allow the vendor some leeway in the exchange calculation when preparing his invoices, but refuse payment of supplementary invoices sent as a result of currency fluctuations.

REFERENCES

1. This is the official dollar price of gold considering the dollar as a reserve currency. There is also a free market price of gold which, as of June 1973, is over $100 per ounce.


6. List price is not necessarily the price that a bookdealer will charge. The bookdealer, having bought the book from the publisher, now owns it and can sell it for any price he chooses. Further, the list price is not necessarily what it will cost the library to acquire the book. The total amount paid for a book is made up of one or more of the following factors: "list" price, foreign exchange rate used, postage and shipping charges, insurance charges, service (or handling) charges, and discounts. The last four factors are determined by the dealer. This paper is concerned only with the first two factors, and assumes that the dealer will charge the list price, or if he adds to or substracts from it he will identify these additions or deductions separately on his invoice. It is also assumed that a reputable dealer will follow this procedure in invoicing and that the library knows how to select a reputable dealer.

7. *International Financial Statistics.* (Washington, D.C.: International Monetary Fund.) Monthly. Prior to February 1972 official rates were listed in the section "Par Values"; currently they are listed in the section "Par Values and Central Rates."

8. *International Finance Institute. Handbook of World Currency, Banking and Foreign Exchange* (Washington, D.C.: 1970), 212 p. Unfortunately out of date since the devaluations of the dollar, much of the book's information can be updated by changing the gold content of the dollar to the current rate (.818512 grams after the May 1972 devaluation—the rate after the February 1973 devaluation has not been fixed officially).


11. *Pick's World Currency Report.* (New York: Pick) Monthly. This valuable publication lists official rates, open market rates, or black market rates as appropriate. For example in the 7 June 1972 issue the Hungarian forint is officially listed as 10.81 to the dollar while the black market rate is listed as 37.05 to the dollar. Unfortunately the report is priced at $275.00 per year which puts its beyond the reach of many libraries.
The Ohio College Library Center is a regional library network. Its online shared cataloging system has been operational since 18 October 1971, and utilizes cathode ray tube terminals located in the center’s fifty-three member libraries. These terminals are connected to the Sigma 5 computer in Columbus by a multiple line, multiple party synchronous transmission telephone network. Between January and June 1972 the system operated at an annual rate of 500,000 works cataloged and over 3,400,000 catalog cards produced. These cards are individualized to fit the requirements of each member and are produced in packs designated for particular catalogs.

The Ohio College Library Center (OCLC) will soon celebrate the sixth anniversary of its incorporation (6 July 1967); its offline catalog card production system began operation in April 1970, its on-line cataloging system has been operational since 26 August 1971, and shared cataloging has been operational since 18 October 1971. Despite this amount of successful experience, little has been published to date about the activities of the center. Most of the articles have been rather general descriptions written before the on-line system became operational or technical papers on very specific aspects such as search keys.¹ This article describes what OCLC is and how it developed, with a brief mention of the center’s plans for the future; however, the main portion is devoted to a detailed description, from a cataloger’s point of view, of how OCLC operates today.

Organizationally, OCLC is a nonprofit corporation chartered in the state of Ohio. Originally limited to academic libraries in the state, since March 1973 membership has been open to nonprofit nonacademic librari-

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* Based on a speech delivered 28 April 1972 at a meeting of the Ohio Valley Group of Technical Services Librarians, Cincinnati, Ohio. Some figures have been updated to reflect changes that have occurred since that date.

** Formerly bibliographic editor, Ohio Library Center.
ies in the state. Members of other networks that have affiliated with OCLC are able to participate in the on-line shared cataloging system, but such libraries are not members of OCLC. As of 1 May 1973 OCLC has fifty-three members, ranging in size from small four-year liberal arts colleges and two-year community colleges to large research libraries such as Ohio State University, from public libraries such as that of Dayton-Montgomery County to highly specialized libraries such as those of the Medical College of Ohio at Toledo and Hebrew Union College.

In practice, as distinct from theory, OCLC employs the concept of the computer as a public utility. The center attempts to supply both computer power and bibliographic information in machine-readable form to its member libraries which then employ both the computer power and the bibliographic information in accordance with their own needs. Its purpose is to increase the availability of library resources within the state so that whatever information one library has is available to all other members.

OCLC does not conceive of its mission as merely the mechanization of library procedures of the past, but it does recognize that you have to start where you are and extrapolate toward where you would like to go, always, however, maintaining contact with the ground. In Greek mythology, Antaeus was destroyed when he lost contact with the ground: OCLC does not wish to share that fate.

Prior to 1967, the Ohio College Association had sponsored a special committee to consider the possibility of an Ohio cooperative library center. This committee considered such things as revising the Ohio union list of serials, cooperative acquisitions, and the establishment of a storage center. In 1963 the committee invited Wyman Parker, librarian of Wesleyan University in Connecticut, to make a study of the possibilities for academic library cooperation in Ohio. In his report Parker recommended the establishment of a bibliographic center to facilitate interlibrary lending among Ohio's academic libraries.

The committee accepted the Parker report, decided to implement it, and requested bids for the development of a bibliographic center. Several commercial firms submitted bids, but the members of the committee could not agree which bid to accept. They decided, therefore, to call in two more consultants knowledgeable in the field of library data processing to learn which of the bids the consultants would favor. The consultants chosen were Ralph Parker, then director of the University of Missouri library and the father of library automation in the United States, and Frederick G. Kilgour, then associate director for research and development at the Yale University library.

The consultants reviewed the bids being considered and recommended that neither be accepted. Instead, they suggested an entirely different approach, stating that at that period in time the mechanization of just one function of a library could not be justified. They believed the best approach would be to create a centralized, computer-based, machine-readable file that could be used for many functions, including the union
catalog, the desire for which was the motivating force behind the activities of the Ohio College Association Committee.

The committee approved of the consultants' recommendation, the Ohio College Association approved, and a corporation was formed and a director chosen. After considering a number of candidates the committee invited Kilgour to become director. He accepted and assumed the position in September 1967.

**Off-Line Cataloging System**

The first years were spent in bringing the corporation into being, staff building, research, systems design, and development. Finally, in April 1970, less than three years after OCLC was founded (a remarkably short period of time when the normal developmental stages of a computer-based operation are taken into account), the first system of OCLC became operational: an off-line catalog card production system.

Thirty-five members of OCLC participated in this off-line catalog card production system. Each member sent to OCLC specially supplied IBM cards. On each card the submitting library put the Library of Congress (LC) card number assigned to the book for which catalog cards were desired. In addition, the library provided its local call number if it was not willing to accept the call number provided by the Library of Congress. OCLC then keypunched this information and ran the request cards against the MARC II data base. If the records were in MARC, catalog cards were produced and sent to the requesting library.

The intermediate steps involved between the receipt of the request for catalog cards by means of the IBM cards and the production of catalog cards in the format required by each member library will be described later in this article.

**On-Line Cataloging System**

The off-line catalog card production system continued in existence for a little over one year. On 26 August 1971, OCLC went on-line. By "on-line" OCLC meant that a user had immediate contact with the computer; an individual in a member library could send in a message and receive an answer immediately. Members are thus able to modify records to suit their own needs. In the off-line system, libraries mailed in their requests, OCLC batched them, submitted them to the computer, and sent the cards produced to the requesting library one or two weeks after the request had been received. The cards produced off-line contained the data provided on the MARC records, unmodified, except for call numbers, by the requesting library. The off-line system lacked the give and take that is possible with an on-line system. It is like the difference between a letter and a telephone conversation.

The on-line system began with one library. During the next six weeks OCLC added all its members, not only the thirty-five that had been participating in the off-line system. Two months later, on 18 October 1971, OCLC started the shared cataloging subsystem which permits member li-
libraries to input bibliographic records not available in the MARC II tapes. All OCLC records, whether prepared by the Library of Congress or by users of the Shared Cataloging System, are available to all users through the Shared Cataloging System.

Search Keys

Each user of the system has available in its own library one or more cathode ray tube terminals (CRT) with which it communicates with the OCLC computer. A CRT is in appearance a combination of a television screen and a typewriter. OCLC uses the Irascope LTE produced by the Spiras Corporation of Waltham, Massachusetts, and the OCLC Model 100 produced by Beehive Terminals of Salt Lake City, Utah. These CRTs are connected to the computer in Columbus by a multiple line, multiple party synchronous transmission telephone network. Since 1971 OCLC has had its own dedicated computer, a Xerox Sigma 5. In its earlier days of operation, the center used several computers owned by Ohio State University which acts as host to the center as well as being one of its members.

A terminal operator in a user library can call up OCLC records by one of four methods: an LC card number search, a title search, an author-title search, or an OCLC control number search. All OCLC records have title and author-title search keys, and OCLC control numbers, which are automatically assigned by the computer when a record is added to the data base. Not all records, however, have LC card numbers.

Assuming that a library has a book with an LC card number that it wishes to catalog, a terminal operator types in the LC card number on the typewriter portion of the terminal. The characters typed are displayed on the TV screen portion of the terminal. At the same time the typed message is transmitted over the telephone lines to Columbus where the computer searches the data base and flashes the answer on the screen in a period of time that can extend from the blink of an eye to three or four seconds. If the record is in the data base and the right search key has been submitted, the full catalog record is flashed on the screen. The record is not sent in catalog card format but rather is vertically formatted: main entry, title statement, edition, imprint, collation, notes, subject tracings, added entry tracings, and series tracings, as well as call numbers. In addition, the terminal display contains a fixed field area where certain coded information is displayed.

When the record is displayed on the screen, the terminal operator compares it with the book being cataloged. If the book and the record agree, fine. If not, the terminal operator makes changes in the record to bring it into conformity with the book in hand, by overtyping erroneous characters, inserting new characters in the midst of existing lines, deleting unneeded characters, or adding or deleting whole fields. If the cataloging library does not accept LC call numbers, it inserts its own. It makes whatever changes it wants in the record until it has on the screen the information that it wants to appear on its catalog cards. Also, the
terminal operator provides holdings information, showing what volumes and copies the library has and in which holding library each is to be located. When the information is arranged to the cataloging library's satisfaction, the terminal operator then depresses the PRODUCE and SEND keys. All the information, as the cataloging library may have modified it, is recorded instantaneously on a magnetic tape in Columbus. The terminal operator is then free to proceed to the next record. The previous book has been cataloged, and all that remains to be done is to prepare it physically for circulation. The catalog cards will arrive within five to seven days.

Meanwhile, all the other libraries in the system are doing the same thing. At the end of the day, the magnetic tape containing the records used that day, including the local modifications, is dismounted and run against the catalog card format program containing the special requirements of each member library and against the print program.

What happens if the LC card number is not known to the cataloging library? After all, the MARC II tapes contain all English language monographs cataloged by the Library of Congress in 1968 and the succeeding years, not just those published in the United States, and therefore records are in the data base for books that do not contain preassigned LC card numbers. If the LC card number is unknown, the cataloging library will attempt to find a suitable bibliographic record by the other keys. The author-title search key consists of the first three characters of the first word of the main entry, a comma, and the first three characters of the first word of the title, excluding initial English language articles. Thus, for a search of Puzo's, The Godfather, the search key would be PUZ, GOD.

The title search key consists of the first three characters of the first word of the title, again excluding initial English language articles, followed by a comma, the first character of the second word, a comma, the first character of the third word, a comma, and the first character of the fourth word. If the title contains fewer than four words it is still necessary to have the three commas. Thus, a one-word title such as The Godfather would be searched under the first three characters of that word followed by three commas, i.e., GOD , , , . (It makes no difference if the characters are in upper or lower case.) If more than one record in the data base matches the sort key, a list of truncated entries from which the terminal operator can choose is displayed.

The fourth search key is based on the unique sequential control number that the computer automatically assigns to each record as it is added to the OCLC data base. The OCLC control number search key consists of the number sign (#), which is a "3" shifted, and then the one to six numeric digits of which the control number is composed.

Thus, each type of search key has its own identifying characteristic that tells the computer which kind of index search is being made and therefore which index file should be examined. When the computer sees from zero to three characters followed by a comma and one to three
more characters, it searches the author-title index. When it finds three commas, it searches the title index. A hyphen is the sign to search the LC card number index while the number sign indicates that the OCLC control number index file is to be searched.

If an LC card number search as well as the title search and all possible variations of the author-title search are unsuccessful (although approximately 70 percent of the items cataloged through the system make use of existing bibliographic data) a library may decide to catalog the book itself. If so, the operator calls for a work form by typing in the letters WF and depressing the DISPLAY RECORD and SEND keys. A workform, a bare outline of a MARC II record, is then displayed on the screen. It contains field numbers, parts of MARC II tags, provision for placement of indicators, and the most commonly used subfield codes. The terminal operator completes the tagging and coding and fills in the data.

Use of the OCLC system therefore requires that the cataloging staff of the user libraries be familiar with the MARC II communications format. At first sight, the communications format is rather intimidating but this illusion is dispelled quickly. After a person has cataloged about a dozen books, he knows the basic MARC II tags and does not have to look them up again because the same ones are used over and over again. The person who does the MARC coding has to look up only the unusual codes, those that are used infrequently.

So the cataloger, or an editor who works with the cataloger's work sheets, assigns the tags and the indicators and the subfield codes to each field. A field is an element of information. The concepts are the same that librarians are used to in traditional cataloging but the terminology is different. The main entry is a field, the title statement is a field, the edition statement is a field, the imprint is a field, the collation is a field, each series note is a field, each contents note or general note is a field, each subject heading or added entry is a field, and each class number or call number is a field. Subfields are parts of fields. For example, the dates of birth and death form the date subfield of a personal name main or added entry. A subdivision of a subject heading is a subfield. Again, they are just traditional library concepts expressed in different terms.

Once the terminal operator has filled in the workform and depressed the PRODUCE and SEND keys, the input cataloging transaction is complete as far as the cataloging library is concerned. The record has been recorded on magnetic tape, and catalog cards will be produced for it just as they are for records that had already been in the data base. This time, however, there is a bonus. Whenever a terminal operator depresses PRODUCE and SEND (or UPDATE and SEND if cards are not wanted) for a record that has been input on a workform, that record is added to the OCLC data base, an OCLC control number is assigned to it, and the record is indexed. If, one second later, another library decides to catalog that book and tries one of the search keys, that library will get the rec-
OCLC has found that a great variety exists in the cataloging practices followed by its member libraries. To bring about a certain amount of, if not uniformity, conformity to minimum standards, the OCLC Advisory Committee on Cataloging met monthly in Columbus from December 1971 through May 1972 to hammer out, field by field, subfield by subfield, what all members could agree should be the minimum content of a record input by a member.

The MARC II communications format provides a very full bibliographic description, fuller than most libraries are accustomed to providing on their catalog cards. To reach agreement about which fields are absolutely necessary to all libraries and should be mandatory, which should be recommended, and which should be optional, was rather difficult. However, after months of detailed discussion, a set of Standards for Input Cataloging was produced and adopted unanimously by the representatives. Each member institution has one representative, usually the librarian but possibly the president or some member of the faculty.

Profiles

How does a library get the catalog cards that fit into its particular catalogs? When a library joins OCLC, a bibliographic editor on the center's staff prepares a profile of the library. The center is interested in three categories of information. First, what collections are in the library? Second, what are the catalogs maintained by the library, including the relationship between the collections (holding libraries) and the catalogs, i.e., when a book is located in a particular holding library, what catalogs contain cards for that book?

The third type of information that the center needs to obtain relates to the elements which the library wishes on its catalog cards and how it desires the catalog cards to be formatted. What are the indentions? Are the subject headings to be in upper case or in a combination of upper and lower case? Are subject headings printed on the top of the card, or does the library use dropped headings? Does the library have any divided catalogs? If so, how are they divided? What kinds of location stamps are used; where are they printed in relation to the call number; on what cards do location stamps appear? For example, if a book is in the art library, some institutions provide that designation on all the catalog cards in all their catalogs while others provide it only on the cards filed in the main library union catalog, while the cards in the art library catalog have no location designation. Does the library use oversize indicators for certain books? If so, what kinds of oversize indicators are used? Where do they print on the catalog card in relation to the call number and the location designations? To what size books do they apply? To what books do they apply? To everything in the library? To everything in the stack collection only? To everything except the reference collection? To everything

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except books in the art library which has a different oversize range since a majority of the art books are large?

As one can see from this brief list of examples, all sorts of patterns and complications are possible. All of these factors (and more) are taken into account in providing a description of an individual library's needs. After many letters, telephone calls, and even visits to a member library to clarify particular points, the bibliographic editor codes the information obtained on worksheets. The worksheets are key-punched and given to the programmers who insert the requirements of an individual library into the basic programs. The programmers set up descriptions, in machine-readable form, of each catalog pack in each holding library in what OCLC calls pack-definition tables (PDTs).

One side benefit of this process of clarification is the help it gives a library to see what it actually does as distinct from what it thinks it does. All too often, librarians have not thought through, in great detail, what they actually do. They take for granted that they know, and it is not until they have to define, field by field, subfield by subfield, character by character, what information they place on a catalog card and where exactly they place it that they really begin to know. At least one library, when it began defining what catalogs it had, found it had two serving exactly the same purpose, and discontinued one of them. So, it helps everyone to clarify, for one purpose or another, exactly what the library does, as that is one step in the direction of a better organized and more efficient library.

**Catalog Cards**

When, at the end of the day, the center staff dismounts the tape on which the day's cataloging activity has been recorded, and runs the tape against the print program, they first run the tape against the PDTs in the card format program. The computer looks at a particular record being presented to it and notes that the University of Cincinnati, for example, asked for catalog cards for a book which is to be shelved in its chemistry library. Then the computer looks for the PDTs set up for the University of Cincinnati. What are the characteristics required of cards for books in its chemistry library? What cards are needed for what catalogs? The format program sets up the cards in the way previously defined in the PDTs.

The cards are produced in pack order, i.e., all the cards for a dictionary catalog pack will be printed together in alphabetical order by heading. If a library has divided catalogs, those cards for the name-title catalog will be in one pack while the subject catalog cards will be in another pack. Cards for the chemistry library dictionary catalog would go in the chemistry library dictionary catalog pack. Cards for the main library shelflist would go into another pack in call number order, while the cards for the chemistry library shelflist would go into still another pack.

Each pack, and a pack is designated for a specific catalog, has its own symbol which the center tries to make as mnemonic as possible. The pack
symbol consists of five characters: a symbol indicating the holding library in which that catalog pack is to file and two characters designating the type of catalog for which cards in that pack are intended. The holding library symbol consists of three uppercase characters. The first two letters are the same for all the holding libraries within an institution and stand for the institution itself. The third character, which need not be a letter, varies from holding library to holding library. A holding library is a collection within an institution that has at least one catalog unique to that collection. The last two letters, designating the type of catalog, are in lower case. Thus, the Ohio State University main dictionary catalog is OSUdc, its art department shelflist is OSAsl, the University of Toledo main name-title catalog is TOLnt, etc.

How much activity is generated by the libraries using the online system? During the life of the off-line catalog card production system, which lasted from April 1970 through August 1971, the center staff considered a good week to be one in which 5,000 cards were produced. During the first year of online operation, the center averaged over 13,000 catalog cards or 2,000 titles per day. The average for the first months of 1973 has risen to 17,000 cards a day. From January through June 1972 the system operated at an annual level of over 500,000 records cataloged and over 3,400,000 cards produced. An average of 6.6 cards is produced per title. On 27 April 1972, 16,212 cards were produced. This was a normal day, not a record production but not unusually low either. Of these 16,212 cards, 15,677 were first cards, 502 second cards, and 33 third cards. Thus, as one can see, relatively few extension cards are produced. Two factors reduce the number of extension cards required. The first is the use of the new ALA print train which prints eight lines to the inch instead of the six lines to the inch produced by the center's former print train. Since more lines can fit into a single card the probability of requiring an extension card has been reduced.

The second factor causing reduction in number of extension cards required is the center's policy of tailoring the cards it produces for a particular catalog or for a particular type of entry within a particular catalog. OCLC does not produce unit cards to which headings have been attached. A library may specify that it wants all tracings and all notes printed on the main entry cards, just general notes and added entry tracings on its added entry cards, and general notes and subject tracings on the subject cards, while the shelflist cards would get no notes and no tracings. Personal name subject cards in one catalog could be treated in one way and corporate name subject headings in that same catalog in another way, and an entirely different pattern chosen for a different catalog. Of course, most libraries do not get quite that specialized. All main entry cards for one institution tend to be pretty much alike as are the subject cards, etc. Sometimes the main library shelflist will contain more information than the departmental shelflists, but all of the departmental shelflists in that same institution usually will contain the same amount and kinds of information. However, it is possible that one con-
Figuration of data can appear on the art library shelflist card, another configuration on the music library shelflist card, etc.

Thus, the amount of information that a library has asked to be put on a particular type of card will affect the number of extension cards required. If tracings are to be printed only on main entry cards, the chances of main entry cards requiring extension cards are greater than they would be for added entry cards that did not contain tracings. It is therefore possible to have a two-card main entry and one card for every other entry. Even if the library has asked for the same data to be put on all the cards, the length of the subject and added entry headings could cause variations in number of extension cards produced for the various entries within a particular title.

The formatting of the cards is flexible. If an added entry or subject heading requires five lines, then that heading will be assigned five lines followed by a blank line with the main entry beginning on the seventh line. If that same record contains another added entry which requires only one line then the main entry on that card will begin on the third line. Thus the cards that OCLC produces are individually formatted as the center does not believe in uniformity for uniformity's sake.

On 27 April 1972, 2,482 transactions were effected through the system. That means that the various libraries in total cataloged 2,482 books. Some of these could have been the same books, of course; there is nothing to keep the University of Dayton and Heidelberg College from cataloging the same book on the same day but that would be considered two separate transactions.

The center has found that its data base is increasing at a more rapid rate from the shared cataloging input than it is from the MARC II input provided by the Library of Congress. The number of records provided on a weekly MARC II tape varies but it averages about 1,500 records per tape. This comes to 300 records a day.

The users of OCLC are now adding an average of 600 records to the system daily for works whose records are not available in MARC II. As of 27 January 1973 the OCLC data base contained some 300,000 MARC II records provided by the Library of Congress plus 245,000 records input by its users for a total of 545,000 records. By the end of May 1973 this total had risen to over 635,000 records of which approximately half were user-provided.

As noted above, the Library of Congress MARC II tapes contain cataloging for current English language monographs only, although records for current French language monographs will be available soon. OCLC users are not restricted in the same way that LC is. The users can and do input records for any monograph as long as the characters are in the Roman alphabet; Cyrillic, Hebrew, or Chinese, etc., cannot be accepted yet. However, German, Swedish, Romanian, Vietnamese, any language that uses the Roman alphabet, is acceptable. Approximately 25 percent of locally-input records are for non-English language works.

Users also do not have any time limit and have input a number of
older titles. Wright State University in Dayton has converted its entire shelflist into machine-readable form, making available to the membership its entire collection of approximately 150,000 titles. Cleveland State University recently started converting its shelflist. As other libraries convert, more and more older material will be found in the data base.

At the beginning of this article, the author said that the impetus towards the development of OCLC was interest in a union catalog. It may seem that the union catalog concept got lost along the way, but it has not. If any library connected with the OCLC system has cataloged any work through the system, the symbol for that library is displayed at the bottom of the record whenever that record is displayed on the screen. Anyone looking at the screen can tell at a glance which other libraries have that book and have cataloged it through the system. A library also can use the terminals to do preorder searching, and if it finds that certain books are located in nearby libraries, it may decide not to purchase. Libraries request information from the system for these types of non-cataloging activities one-and-a-half times as often as for use in cataloging.

What the center is working towards, in addition to the union catalog facility that now exists, is a true interlibrary loan system by which one user can arrange to borrow books from another through the terminal. This interlibrary loan system is now in the developmental stage. What the center can show now is which library has the work; the mechanics of arranging the loan must still be the traditional ones.

In addition to the Advisory Committee on Cataloging which has already been mentioned, the center has an Advisory Committee on Serials and one on Technical Processing. The function of these committees, which are composed of staff members from various OCLC member libraries, is to help OCLC design the most efficient and usable systems possible for serials control and technical processing. The Serials Control System will have three functions: check-in, claiming, and production of binding records. While serials cataloging is expected to be operational in the fall of 1973, serials check-in will not be implemented before the end of the first quarter of 1974. The claiming and binding functions will follow later. At first, the Technical Processing System will be basically an acquisitions system; it will produce purchase orders, send out these purchase orders, and keep account of funds both encumbered and spent by each library. No implementation date has been set for the Technical Processing System.

Summary

To summarize, the Ohio College Library Center has an operational on-line shared cataloging system that utilizes cathode ray tube terminals located in the user libraries. These terminals are connected to the Sigma 5 computer in Columbus by a multiple line, multiple party, synchronous transmission telephone network. From January through June 1972 the system operated at an annual level of over 500,000 titles cataloged and
over 3,400,000 catalog cards produced. In the design stage are a Serials Control System and a Technical Processing System.

REFERENCES

The authors investigate the impact of a bibliographic retrieval/card production system, such as the Ohio College Library Center (OCLC), with special attention to its role in cataloging. Activities required at the local level to make the LC card a functioning component of the catalog are described. The characteristics of the ensuing workload are examined, along with methods of accomplishing it. These activities are seen as a factor in the persistence of backlogs. The design of OCLC, because of the immobility of the terminal and the absence of the catalog from the data base, by-passes this workload, leaving the local library to accomplish it by the method of its choice, as before, or to leave it undone.

THE OHIO COLLEGE LIBRARY CENTER (OCLC) is our current model system for interlibrary cooperation. It is designed to combine functions usually thought to be local with those of a network nature. One goal is to stabilize library costs through cooperative use of a common computer and data base. A number of technical problems never before solved have been met and overcome in OCLC. The system is reliable.

The purpose of this article is to consider how the adoption of a system similar to OCLC's would affect the cataloging procedures in a large academic library. The module of OCLC with which we are concerned operates as follows.

Bibliographic entries in MARC (MAchine Readable Cataloging) format in the computer comprise a data base to which participating libraries may add original or any other cataloging copy. The data base is searched by a simple search key for author-title, title, or Library of Congress (LC) card number, which results in visual display of copy on a
cathode ray tube terminal. This copy is held on the screen as long as needed, and changes may be made by a person at the terminal (these changes affect only the copy shown on the screen, not the information in the data base). Once the copy has been modified to the satisfaction of the operator, a button is depressed which results in the off-loading of the approved copy onto tape to be used in off-line card production. The desired card format and set configuration for each participating library has been preregistered, and this profile is consulted by the computer at card production time. The cards are produced, in filing order if desired, and mailed to the library.

The OCLC system proposes to assume some of the work now done in the local catalog-building process, thereby reducing the number of persons involved. It does not propose to present a substitute for the card catalog, and because the system produces cards, it may be presumed that the card catalog will remain the major method of gaining access to the collection by the users. What is the catalog-building process and how does it relate to the OCLC system?

Building a Catalog

Catalog building consists of two phases: (1) the creation of cataloging copy representing the works being added to the collection; and (2) the integration of that copy into the existing catalog. Phase One simply involves the creation of a record; Phase Two determines whether or not the reader will be able to retrieve that record once it has been dropped below the rod among a million others.

Now that LC copy is available for most library materials, the first phase of cataloging has been reduced in most instances to a few minutes; the cataloger examines the new work and if necessary edits the card to adjust any discrepancies between the card and the work. The second phase of cataloging, however, remains tedious and time-consuming. LC has specified the multiple entries under which the record is to be filed, entries which meshed with like entries in the LC catalog at the time the card was produced. They will not necessarily file in the same way in another catalog, or in the LC catalog of another date. Since the difference of a single letter or digit shunts a heading out of alignment, headings for the same person, place, or thing must be uniform. Each catalog contains its own unique assortment of vintage LC and local entries, and each library, therefore, must accomplish the coordination of old and new headings for itself.

The Library of Congress faces problems in the integration of new copy on a monumental scale, with the result that it is constantly revising its retrospective file. As new entries are assimilated into an old catalog, there is an ever-increasing need to differentiate between names, to update subject headings, to modify and extend the network of references, all the while taking account of changes in entry called for by the Anglo-American Cataloging Rules (AACR). Only by being responsive to change can the national catalog remain an authoritative tool.
The dynamics of change at the local level are indirect: if we follow LC we must change when LC changes. This is the meaning of accepting LC authority; it is the condition attached to the intelligent use of the depository file and the printed sources; it is the price we must pay if our own catalogs are to remain useful and reliable. Only by accepting LC revisions can we realize the full benefit of LC copy. The reason for a particular change is often not apparent at the local level; nevertheless, if we have the new entry, we must beware of accepting the old. The amount of revision is in proportion to the number of new titles added to the collection: the more we catalog, the more we must revise.

In the ensuing discussion of catalog maintenance, the reader should be aware that it is our practice at Florida State University (FSU) to base our new entries on the rules of AACR insofar as possible, even if the resulting entries conflict with established LC entries. This practice is based in part on our observation that LC increasingly is changing established entries to be in accordance with AACR (see examples following this paper).

Phase Two involves a complex of activities related to the reconciliation of new headings with headings presently in the catalog. In the process of testing the entries on the new card for correspondence with like entries in the catalog, the cataloger gathers data for whatever authority cards and history cards may be required, for identifying new subject headings and new series authority cards. At the same time the cataloger is scanning for trouble: a missing reference, a double file, a blind reference, some other failure. Perhaps a series-added entry has been made for a work cataloged as a serial; perhaps two different entries and classification numbers have been used for two copies of the same work; perhaps a corporate body or governmental jurisdiction has been entered under a succession of names with no history card to relate them. Many problems capable of generating long-term trouble may be uncovered during the process of entry reconciliation. Preparing instructions for such changes is a continuing part of the cataloger's responsibility.*

* In a recent survey of Phase Two activity required for 1,279 monographs added to the collection, Florida State University catalogers tallied the following actions:
1. Change of heading on copy in the catalog because of name conflict (personal, corporate, political jurisdiction).
2. Change of heading on the new copy because of name conflict.
3. Alteration of copy because of subject heading conflict.
4. Establishment of new subject heading or subdivision.
5. Alteration of new copy to conform with local series decision.
6. Preparation of new authority card, including references (this may include decisions on headings new to the local catalog for which LC is using a long-established form of the name now in conflict with AACR).
7. Change of call number (for instance, literature number rather than PZ, PA author rather than PA series number).
8. Noting call number of old editions and related works in Dewey.
9. Preparation of history card for name changes.
10. Establishing or conforming to uniform title arrangement.

In the course of Phase Two work on the 1,279 monographs, 617 of these actions occurred.
When older copy is used for a work being added to the collection, obsolete entries on the card can be altered quickly and cheaply. A drop of correction fluid, a neatly typed correction, and the card is ready for duplication. When the older form is embedded in the catalog, however, revision is tedious and costly. Conflict of a current LC entry with an earlier LC entry, for instance, may require the removal and revision of a partial set, a full set, or multiple sets of cards from the catalog. There is no inexpensive method for updating the card catalog. Conflicts on new copy, however, can be anticipated by updating the master to be used for duplication, so that at filing time obsolete entries will have been brought into conformity with the more recent LC entries in the catalog.* *

The coordination of headings generates a secondary workload of growing proportions which must be accepted and staffed as a fact of library life. The cost should not be charged to the cataloging of new materials, although it frequently is so assigned because the unit performing the work is in the cataloging department. The benefits of maintenance are enjoyed by reference and acquisitions personnel, and future catalogers, not to mention the public. One way to keep the workload of catalog maintenance within bounds is to confine it, insofar as possible, to revision of the existing catalog. This means duplicating card sets only after every needed alteration has been made to the master for the new entry, not only the editorial alterations that can be made at the cataloger's desk, but also the functional ones which affect the filing position of headings, reveal the bibliographic relationship with other works in the collection, or determine the location of the work in the library. The burden of maintaining the catalog is great enough without adding to it the unnecessary burden of revising new sets of cards.

An alternative to completing the work of Phase Two before cards are duplicated is to order card sets first and rely on the filing process to reveal conflicts. Proponents of this system assert that most of the entries will file without difficulty and that those which do not can be rectified later. At that time, conflicts requiring a change in the existing catalog will be resolved by revising the catalog, allowing the new cards to file; conflicts requiring a change to the new cards will be resolved by recalling and re-duplicating the cards.

What part of the cataloger's time will be saved, and with what results? As headings are rejected in filing, someone will still have to determine, by verification, which of the two conflicting forms to adopt; some-

**In another study at FSU, it was found that 54 percent of new copy is MARC copy, with 46 percent from other sources being non-MARC, either National Union Catalog or original (an undetermined portion of this 46 percent being LC copy). At present all MARC copy is fairly recent and its entries are fairly current; therefore, most conflicts must be resolved by expensive changes to the catalog. Conflicts on the other copy tend to be resolved by altering the copy before the cards are produced. As time passes the older MARC entries will move into this category unless there is constant updating of the MARC record being used.
one will still have to be responsible for the editing of collateral records required in Phase Two. Since the number of entries examined during entry reconciliation is large in proportion to the number of conflicts uncovered, there is indeed the appearance of inefficiency. But it is not correct to charge all of this time to entry reconciliation, because the cataloger is also gathering data for series, subject headings, authority cards, and not least of all, for essential repairs.

Even though each entry has been checked before cards are duplicated, a certain number of cards, some new and some old, are rejected at each filing. This is not to say that the problems discovered by the cataloger, who is consciously scanning for trouble, would also be identified by a filer. Filers have preoccupations of their own; the same person will perceive different relationships in the filing process from those involved in the cataloging process. It is not reasonable to suppose that a person filing random entries can observe the same relationships as can a person examining a configuration of related entries in the context of the work itself.

The acceleration of Phase One, brought about by LC's tremendous outpouring of copy, has not been matched by a corresponding acceleration in Phase Two. The LC card produced represents the work, and is negotiable anywhere, but the remainder of the cataloging process is specific to each library. The cost of Phase One was absorbed nationally so that great savings could be realized locally. No such savings should be expected in Phase Two. The use of the OCLC "shared cataloging" module will allow moderate personnel savings in those clerical positions peripheral to cataloging (depository card filing, bibliographic search for copy, and card production), but these are not the high cost areas.

Phase Two does not lend itself to central solution, at least not for an existing local catalog. The resulting frustration has led to many proposals to "speed up cataloging," to "eliminate the backlog," to "get the books on the shelves." Any process is subject to review, and should be reviewed on a regular basis. Proposals which in effect would by-pass the second phase of cataloging, however, are frontal attacks on the basic structure of the card catalog itself. Usually, such proposals are justified in the mind of the proponent by the "small" number of conflicts imagined to exist, even though no measurement has been made of the number of instances in which the catalog is misleading or unresponsive, or in which the patron is thwarted by a double file or a missing reference. A "small" error can be as devastating in cataloging as in arithmetic, making nonsense of the next step which will become more costly to remedy as time goes on. Allowing new cards to be filed into the catalog faster than the old ones can be revised may hasten the processing of books; it also hastens the deterioration of the catalog.

The examples at the end of this article illustrate the problems attendant upon catalog editing and give some hint of the rapidity with which a catalog can suffer severe damage. Those who agitate for speed
may be doing so without taking the long-term aspects of the readers'
needs into account.***

OCLC and the Backlog

The options offered by OCLC for card format and set configuration
are excellent. Editorial changes required to resolve discrepancies between
the work and the catalog copy can be made at the terminal. But no pro-
vision has been made for determining the functional changes needed,
either in the catalog or on the copy. For these, the catalog itself, the
shelflist, and various bibliographical tools must be consulted. The im-
mobility of the terminal, combined with the fact that the local catalog
is not in the data base, severely limits the usefulness of the "shared cata-
logging" module in Phase Two work. Libraries which prefer to order
card sets first and coordinate them later will no doubt continue to do so;
those which prefer to complete Phase Two before producing the cards
will have to proceed as before. Since the bibliographic affluence we now
enjoy in the printed sources has not been incorporated in its entirety in
the OCLC data base, libraries in the second category must continue to
distribute depository cards or duplicated copy to the catalogers with new
books. In either case the cathode ray tube terminal can be used to ini-
tiate card production.

The design of OCLC, with its copy displayed on a terminal screen
in a fixed position away from the card catalog, seems to imply that inter-
action with the card catalog during the catalog-building process is not
necessary. The depository card, or duplicated LC or NUC copy is mobile
and can be taken to the catalog, the shelflist, or any other place felt ne-
cessary. The OCLC system provides bibliographic search and card pro-
duction with the apparent assumption that these capabilities alone will
eliminate the backlog. What happens after the cards are delivered, in
filing order, is not the concern of the system.

The Computer as Aid in Catalog Building

In its inability to interact with the local catalog the OCLC system
fails to be of help to the cataloger in providing an expeditious way to
make the catalog consistent. To do this, it would be necessary to have the
complete local catalog, accessible by all filing elements, the LC authority
file updated weekly and including its references, the LC subject heading
list updated weekly, and the local shelflist in the data base. This con-
figuration, although not complete, would allow determination of a high
percentage of entries and, most importantly, expedite the work of Phase
Two, utilizing the capabilities of the computer.

*** A more complete collection of examples has been gathered into an annotated
booklet, Coordination of Headings in a Card Catalog: Some Examples, available from
Technical Processes, Robert Manning Strozier Library, Florida State University,
Tallahassee, FL 32306. $2.50.

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The authors have attempted to show in this article that the “shared cataloging” module of OCLC is simply a bibliographic search and card production system. The delivery of LC copy via the terminal is redundant in large libraries as most have more complete bibliographic copy in a more useful form; the delivery of copy created by member libraries could be a source of contamination rather than a help unless there is an effective monitoring system for the entries added to the data base. Whether or not the module can be shown to save some money is irrelevant since in its immobility it provides a block to accomplishing the work. It is regrettable that the systems design up to this point has failed to take a full view of the catalog-building process, and furthermore that its promotion makes claims which minimize the importance of a trying and difficult work. Perhaps some method of coordinating entries coming from the OCLC data base with those already in the catalog will be devised. Without this step in quality control a serious deterioration of the catalog is certain to result.

Examples

Cottrell, William Frederick, 1903—
Includes bibliographical references.

Zeigler, Luther Harmon, 1905—
Includes bibliographical references.

Example 1

Typical LC revision of established names. At left, both new card (top) and card in FSU catalog (bottom) are 1970 LC entries. Cataloger verifies that both headings represent the same person and that the short form presently in the catalog is the current form. Heading on new card will be altered before duplication to match heading in catalog. At right, entry for 2d edition of Zeigler’s work (top) conflicts with first edition in the FSU catalog (bottom). Old cards will be revised.
Example 2

In 1971 the Library of Congress revised its large file under Pincherle, changing it to Moravia. Whatever the reason for changes such as this, libraries using the MARC data base or the depository cards must follow suit in order to make the best use of cataloging already done. At FSU the Catalog Maintenance Unit changed main entry and call numbers for thirty-one sets of cards, removing at least 155 cards from our catalogs to do so.

Example 3

ALA rules stipulate that corporate names in non-Roman alphabets be established in the language of the local library, with a reference from the transliterated form. AACR allows a choice between translation and transliteration, and LC chose the latter, reversing its old references. Here a cataloger with a new entry under Bungei Shunju Senshi Kenkyûkai finds an old reference in the FSU catalog from that form to Pacific War Research Society, and recognizes it as obsolete. All entries under the English form will be changed to the Romanized form, and the reference will be reversed.
Unlike tracings, references are not supplied with LC cards, but are the continuing responsibility of the local library. Here the cataloger working with copy for the fifth congress (top) finds no headings for earlier congresses in the catalog. Normally the library would have at least a few. Were the earlier meetings held under a different name? There are no references to indicate it, which may mean that the name change took place at the time of the fifth congress. The question is answered when the cataloger files the temporary shelflist and finds the earlier congresses, entered under International Congress for Church Music, occupying call numbers in sequence with that of the fifth. An advantage of following LC is that the shelflist often provides answers which elude us in the catalog. An authority card is prepared for the fifth congress with a reference to guide patrons searching for it under the name used for the others. Noting that no reference was made from the German form of the old name, the cataloger also prepares an authority card for the earlier name.

Example 5

Sometimes LC’s right hand does not know what its left hand is doing. Cataloger finds that the new book, which LC has entered under title (top) is already in the collection (below) with LC entry under the name of the seminar. Notice particularly the difference in classification and subject headings.


"American Poetry" but "Satire, American": The Direct and Inverted Forms of Subject Headings Containing National Adjectives

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The problem of the direct and inverted forms of adjective-noun subject headings which contain national adjectives is reexamined. A pattern based on subject categories is discovered which is different from the pattern based on word-frequency discussed in Harris' Subject Analysis.

Introduction

The inconsistency in entering an adjective-noun phrase heading directly or in the inverted form in Subject Headings Used in the Dictionary Catalogs of the Library of Congress (LCSH) has been a recurrent subject of discussion.* No consistent pattern has yet been uncovered. Users and catalogers alike are baffled by the formation of headings such as the following:

- Church music
- Music, African
- African languages
- Language, Universal

or,

- Bessel's functions
- Functions, Abelian
- Abelian groups
- Groups, Continuous.

In a dictionary catalog, the practice of inverting the adjective-noun heading so that the noun appears as first element in the heading which then files next to other headings beginning with the same noun appears

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* Subject headings from LCSH used in this article are in boldface.

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to be a concession to the classed-catalog. This practice was sanctioned by Cutter's rule number 175: "Enter a compound subject-name by its first word, inverting the phrase only when some other word is decidedly more significant or is often used alone with the same meaning as the whole name." Immediately after this rule, however, Cutter states, "It must be confessed that this rule is somewhat vague and that it would be often of doubtful application. . . ." He concedes that "... to adopt the noun (the class) as the heading is to violate the fundamental principle of the dictionary catalog."

Since Cutter's rules, the practice as evidenced in LCSH has been that some such headings are inverted, others are not; there seems to be no guideline to insure consistency or regularity. Later writers on subject headings have made attempts to formalize this particular aspect. Haykin states:

When it is desired to bring the noun in an adjectival heading into prominence, either in order that it may appear in the catalog next to other headings beginning with that noun, or because the adjective is used simply to differentiate between several headings on the same subject, the inverted type of adjectival heading is used.

This statement provides some general ideas, but is lacking in specific guidance or explanation that will help to elucidate the examples cited above.

Mann offers three reasons for inversion: "Such an arrangement (1) brings books on related aspects of a subject together; (2) it results in a grouping that is frequently different from the classified arrangement on the shelves; and (3) it relieves readers of the trouble of searching in a number of places in the catalog to find related topics." It is not clear what is meant by the second reason. The first and third reasons are incompatible with the characteristics of a dictionary catalog, particularly that of specific entry. From a practical point of view, her reasons fail to provide guidance or explanation for the formation of adjective-noun headings in the Sears list or the LC list.

Westby, in the introduction to the tenth edition of the Sears List of Subject Headings, comments:

The reasons for inversion are twofold: 1) an assumption is made that the reader will think first of the noun; or, 2) the noun is placed first in order to keep all aspects of a broad subject together when that result is deemed desirable.

However, she continues,

In formulating this kind of heading it is difficult to decide whether to use the normal order followed in speaking and writing or the inverted order; some users of the catalog will think of it one way, others in the opposite.

Concerning adjective-noun headings containing national or ethnic adjectives in particular, writers on subject headings have also attempted explanations. Haykin states:
It is unlikely that the reader will look under an adjective denoting language, ethnic group, or place for material on a subject limited by language, ethnic groups, or place, although, in the case of ethnic groups particularly, the interest in the group may outweigh that in the subject.6

This statement fails to explain headings such as French farces, German Catholicism, or English sparrow.

Coates also offers an explanation:

The ethnic adjectives are used to name national schools in many of the fine arts, literature and philosophy. Usually they appear as the second word of an inverted phrase heading, e.g. “Painting, English.” But in topics connected with language and literature the ethnic adjective is the first word, the phrase in this case not being inverted.6

Similarly, this statement does not account for headings such as Argentine ant; Satire, American; Short stories, American; Chinese cabbage; English horn; or Proverbs, Arabic [Danish, German, etc.].

The Vatican code also contains rules relating to national adjective-noun headings. Rule 424a states:

Certain concepts which are sufficiently specific in themselves are subdivided by the name of the country in adjectival form. Among these concepts are all the manifestations of the national spirit and intelligence, the national arts and sciences and their products, literary forms, and collected bibliographies of artists, scientists, etc.7

Rule 436 deals with national literatures specifically: “The literatures and literary forms of particular countries are characterized by means of national and ethnic adjectives.” This rule also discusses inversion: “A more logical way of characterizing these headings would have been to put the national adjective first. . . . However, it was thought better to follow common Italian usage, and to give the general term first, followed by the national adjective.” Because common Italian usage places the noun first, followed by the adjective, e.g., “Dramma tedesco,” consistency in form is no problem in an Italian catalog. Inconsistency occurs in the English version of these headings, e.g.,

<table>
<thead>
<tr>
<th>Letteratura italiana</th>
<th>Italian literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canti guerreschi italiani</td>
<td>War-songs, Italian</td>
</tr>
<tr>
<td>Poesia polacca</td>
<td>Polish poetry</td>
</tr>
<tr>
<td>Poesia epica norvegese</td>
<td>Epic poetry, Norwegian</td>
</tr>
<tr>
<td>Dramma tedesco</td>
<td>German drama</td>
</tr>
<tr>
<td>Misteri e sacre rappresentazioni tedesche</td>
<td>Mysteries and miracle plays, German</td>
</tr>
</tbody>
</table>

One of the most recent attempts is that of Harris who attempts to elucidate “the basis of present subject heading practice to aid in the formulation of a much-needed subject heading code.”8 In considering the problem of adjective-noun phrases, Harris demonstrates the possible relationship between word frequency and the choice between inversion and the direct entry, i.e., whether the noun or the adjective is to be used

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as the entry word. She begins with the hypothesis that “if an adjective-noun combination were selected as describing a subject, the less common of the two words might be regarded as best specifying the subject,” and applies a word frequency test to a 10 percent sample of the LCSH. Among the headings containing nonnational adjectives, no clear pattern is detected, and she concludes that “the hypothesis that the choice between inversion and direct entry of adjectival phrases is influenced by which word best specifies the subject is supported to a very limited extent when non-national adjectives are involved.” However, a more discernible pattern emerged from the group of headings containing national adjectives. She observes that “in adjective-noun phrases where the adjective denotes nationality, language, culture, or ethnic grouping, the difference between mean frequency of entry is clearly a major influence in structuring these phrases.” Based on her findings, Harris suggests that “in structuring new subject headings the relative frequencies of the words involved ought to be a valuable indicator of the degree of specification afforded by each alternative.” It is not clear whether she means that each heading containing a national adjective is to be entered directly or inverted based on the criterion of word frequency. If so, the following headings would be established by using the Kučera word-frequency list which Harris used in her study:

- Literature, American
- Language, English
- Literature, English
- German language
- Hungarian literature
- Philology, German
- Chinese literature
- Chinese language
- Music, American
- Philology, Chinese
- French
- Painting, Chinese

Although these headings may have achieved the purpose of bringing forward the term that most specifies the heading, the value of such inconsistent forms is doubtful from the user’s point of view.

This paper proposes to reexamine the subject headings which contain national adjectives, with an approach different from that of Harris. Based on an examination of the entire LC subject heading list, certain patterns concerning direct and inverted forms are detected which do not seem to have much association with word frequency.

Methodology

The seventh edition of LCSH was used as the basis of this study. All adjective-noun headings containing national adjectives were identified and counted. The term “national adjectives” is defined as in Harris’ study, i.e., adjectives denoting national, ethnic, cultural, or linguistic distinctions. The headings chosen include those containing a national adjective (or adjectival phrase) used with one or more nouns or noun phrases with or without conjunctions. Excluded are phrase headings con-
taining any preposition or adverb. Examples of types of headings included are:

- American poetry
- Poets, American
- English ballads and songs
- Dutch prose literature
- Picture dictionaries, Dutch
- Lacquer and lacquering, Chinese
- Surplus military property, American
- Anglo-Spanish War, 1718-1720.

Headings such as Spanish missions of California, etc. and Yugoslav property in Great Britain were not included. Headings containing geographic, rather than national, adjectives such as Alabama claims, Hanoverian mercenaries, and Pacific wagon roads were also excluded.

A total of 3,501 entries were examined and counted. Of these, 3,156 are direct headings with the adjective first, and 345 are inverted headings. The enormous difference in the numbers between the two groups is due to the fact that each entry of direct heading in the LC list represents one heading in the catalog, while each entry of inverted heading, e.g., Paintings, American [French, Scandinavian, etc.], represents a category. Also, in this case, each noun is counted only once. Hence, 345 inverted headings represent 345 different nouns used with national adjectives; whereas in direct headings, each noun is often counted repeatedly, as in English language, French language, German language, etc.

Results

Based on our examination, the following patterns are established:

Adjective-noun headings are generally inverted except in the following categories in which they are entered directly with adjective first:

I. Certain literary forms:
   - . . . ballads and songs
   - . . . diaries
   - . . . drama
   - . . . essays
   - . . . farces
   - . . . fiction
   - . . . letters
   - . . . literature
   - . . . orations
   - . . . poetry
   - . . . prose literature
   - . . . wit and humor.

Other literary form headings containing national adjectives are entered in the inverted form according to the general rule, hence:

- Chap-books, American
- College prose, English
- Detective and mystery stories, German
- Dialogues, French
- Didactic literature, French
- Didactic poetry, French
- Epic literature, Irish
- Epic poetry, Finnish
- Fables, French
- Folk-drama, American
- Folk literature, Arabic
- Heroic verse, English
- Historical drama, English
- Historical fiction, American
- Mysteries and miracle plays, English
- Nursery rhymes, Chinese
- Parodies, French
- Pastoral drama, Brazilian
- Pastoral literature, French
- Pastoral poetry, English
- Political ballads and songs, American

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The pattern one can derive from the above lists is that major literary forms, when used with national adjectives, are always entered directly, i.e., with adjective first. Minor literary forms, with the exceptions of Ballads and songs, Diaries, and Farces, are entered in the inverted form, i.e., with the noun as the entry word.

Related to the literary forms are two other general forms which are never used as entry words when modified by national adjectives. These are Newspapers and Periodicals.

II. Certain nouns in the areas of anthropology and linguistics:

- Political poetry, American
- Political satire, English
- Proverbs, Arabic
- Quatrains, Dutch
- Quotations, American
- Religious drama, English
- Religious literature, English
- Religious poetry, Dutch
- Revolutionary poetry, Chinese
- Riddles, Anglo-Saxon
- Romances, English
- Satire, American
- Science fiction, French
- Short stories, American
- Sonnets, American
- Tales, African.

III. Proper names, generally names of corporate bodies or historical events, containing national adjectives. These are always entered directly with the adjective first, e.g.:

- American Party
- Anglo-Iranian oil dispute
- Bulgarian massacres, 1876-1877
- Burmese War, 1824-1826
- Byzantine Empire
- Canadian Invasion, 1775-1776
- Celtic Church
- Colombian-Peruvian asylum case
- Illyrian wars
- Onedia Community.

Note that not all these headings are capitalized in LCSH. Many names of historical events are not capitalized. A heading is considered to be a proper name here when it refers to specific event(s).

IV. Certain noun-phrase headings in the area of history and social sciences:

- claim(s)
- emperors
- empresses
- movement
- question
- studies.

Examples of these headings are:

- African studies
- Armenian question
- French spoliation claims
- Flemish movement
- Roman emperors
- Turkish empresses.

Three of these nouns, “question,” “studies,” and “claim(s),” have prob-
ably more geographical reference than national, ethnic, cultural, or linguistic connotations, inasmuch as these nouns are often used with other place names to form subject headings, e.g.,

Aland question
Alabama claims

Caribbean studies

In LCSH, headings containing geographic modifiers are entered directly with very few exceptions.

V. A large number of direct headings containing national adjectives which have lost their national, ethnic, cultural, or linguistic connotations. The national adjectives in these cases indicate the origin of the terms rather than manifesting national spirit of the objects. These can be divided into the following groups:

A. Names of animals and plants when used with national adjectives to form names of subspecies or various breeds. There are a large number of headings in this category in LCSH, for example:

- Arabian horse
- Argentine ant
- Brazilian pine
- Caucasian whortleberry
- Chinese cabbage
- Dalmatian dogs
- Dutch rabbits

English sparrow
Eskimo dogs
Gipsy-moth
Irish setters
Siamese cat
Spanish fir.

The only exceptions to this rule are Bison, American and Bison, European.

B. Names of musical instruments:

- Aeolian harp
- Aeolian-vocalion
- English guitar

- English horn
- Hu ch' in.

C. The noun “law” when used with national adjectives to form names of legal systems rather than headings which indicate the laws of specific countries or peoples:

- Jewish law
- Rif law
- Roman law

- Roman-Dutch law
- Salic law.

Laws of specific countries are entered under the main heading Law subdivided by place. Laws of specific peoples are entered in the inverted form, e.g.,

- Law, Anglo-Saxon
- Law, Aztec

- Law, Germanic.

Exceptions

Among the 3,156 direct headings examined, there are 70 (2.2 percent) which do not fall into any of the categories established above. Following is a complete list of these headings:

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<table>
<thead>
<tr>
<th><em>African horse sickness</em></th>
<th>Jewish learning and scholarship</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>African swine fever</em></td>
<td>Jewish libraries</td>
</tr>
<tr>
<td><em>Algerian febrifuge</em></td>
<td>Jewish sects</td>
</tr>
<tr>
<td>American loyalists</td>
<td>Jewish theology</td>
</tr>
<tr>
<td><em>American school reading readiness tests</em></td>
<td>Latin historians</td>
</tr>
<tr>
<td>Arabic libraries</td>
<td><em>Lombard loans</em></td>
</tr>
<tr>
<td><em>Asian flu</em></td>
<td><em>Mongolian birthmark</em></td>
</tr>
<tr>
<td>Assyro-Babylonian prayers</td>
<td>Negro actors</td>
</tr>
<tr>
<td>Assyro-Babylonian religion</td>
<td>Negro artists</td>
</tr>
<tr>
<td><em>Australian ballot</em></td>
<td>Negro athletes</td>
</tr>
<tr>
<td><em>Australian football</em></td>
<td>Negro authors</td>
</tr>
<tr>
<td>Babylonian sibyl</td>
<td>Negro criminals</td>
</tr>
<tr>
<td>Canadian clubs</td>
<td>Negro dentists</td>
</tr>
<tr>
<td><em>Canadian football</em></td>
<td>Negro inventors</td>
</tr>
<tr>
<td><em>Chinese chess</em></td>
<td>Negro lawyers</td>
</tr>
<tr>
<td>Chinese classics</td>
<td>Negro librarians</td>
</tr>
<tr>
<td>Chinese examination essays</td>
<td>Negro minstrels</td>
</tr>
<tr>
<td><em>Congo red</em></td>
<td>Negro musicians</td>
</tr>
<tr>
<td>German Day celebrations</td>
<td>Negro nurses</td>
</tr>
<tr>
<td>German mercenaries</td>
<td>Negro physicians</td>
</tr>
<tr>
<td><em>Greek fire</em></td>
<td>Negro press</td>
</tr>
<tr>
<td>Greek geographers</td>
<td>Negro scientists</td>
</tr>
<tr>
<td>Greek historians</td>
<td>Negro songs</td>
</tr>
<tr>
<td><em>Greek letter societies</em></td>
<td>Negro spirituals</td>
</tr>
<tr>
<td>Greek mercenaries</td>
<td>Negro tales</td>
</tr>
<tr>
<td><em>Indian clubs</em></td>
<td>Negro teachers</td>
</tr>
<tr>
<td><em>Indian trails</em></td>
<td><em>Prussian blue</em></td>
</tr>
<tr>
<td><em>Indian warfare</em></td>
<td><em>Roman cement</em></td>
</tr>
<tr>
<td><em>Irish crochet lace</em></td>
<td>Roman walls</td>
</tr>
<tr>
<td>Israel prize</td>
<td><em>Russian bank (Game)</em></td>
</tr>
<tr>
<td>Japanese tea ceremony</td>
<td>Russian Germans</td>
</tr>
<tr>
<td>Jewish-Arab relations</td>
<td><em>Siamese twins</em></td>
</tr>
<tr>
<td>Jewish art and symbolism</td>
<td><em>Spanish broom</em></td>
</tr>
<tr>
<td>Jewish Christians</td>
<td><em>Swedish gymnastics</em></td>
</tr>
<tr>
<td>Jewish criminals</td>
<td><em>Viking ships</em></td>
</tr>
</tbody>
</table>

One might attempt an explanation for some of these exceptions. Each heading marked with an asterisk contains a national adjective which has lost its national, ethnic, cultural, or linguistic connotations. Because other national adjectives are not generally applicable to the same noun, e.g., no such heading as "Chinese ballot" or "Australian chess" exists, it serves no purpose to invert the heading. These headings, therefore, are entered directly with the adjective first. One also notices that a large number of these exceptions contain the adjective "Jewish" or "Negro." However, not all headings in the LC list containing either of these adjectives are entered directly. Some are inverted. One possible explanation for the headings containing the adjective "Jewish" is that this adjective has both religious and ethnic connotations. Heads containing reli-
gious adjectives such as "Buddhist," "Catholic," "Hindu," "Mohammedan," and "Shinto" do not seem to conform to the patterns for national adjectives.

From the comments of various authors already cited, it appears that the inverted form is an exception to the direct form. Among the subject headings containing national adjectives in LCSH, however, the inverted form is the rule rather than the exception. As we have seen, direct headings are limited to certain subject areas, but inverted headings encompass all subject areas. Following is a list of headings which exemplify the diversity in subject matter among the inverted headings:

<table>
<thead>
<tr>
<th>Abbreviations, English</th>
<th>Ethics, Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actors, American</td>
<td>Mathematics, Chinese</td>
</tr>
<tr>
<td>Advertising, American</td>
<td>Medals, Jewish</td>
</tr>
<tr>
<td>Air-bases, American</td>
<td>Messianism, Polish</td>
</tr>
<tr>
<td>Astrology, Arabic</td>
<td>Missions, American</td>
</tr>
<tr>
<td>Atlases, Austrian</td>
<td>Music, African</td>
</tr>
<tr>
<td>Automobiles, American</td>
<td>Paleography, Arabic (Cufic)</td>
</tr>
<tr>
<td>Baths, Finnish</td>
<td>Philosophy, American</td>
</tr>
<tr>
<td>Book-plates, American</td>
<td>Physicians, Arabic</td>
</tr>
<tr>
<td>Carols, Argentine</td>
<td>Proverbs, Arabic</td>
</tr>
<tr>
<td>Catechisms, English</td>
<td>Religious camps, Jewish</td>
</tr>
<tr>
<td>Civics, British</td>
<td>Sociology, Jewish</td>
</tr>
<tr>
<td>Cookery, American</td>
<td>Subject headings, French</td>
</tr>
<tr>
<td>Corporations, American</td>
<td>Swords, American</td>
</tr>
<tr>
<td>Cosmogony, Babylonian</td>
<td>Typewriters, Chinese</td>
</tr>
<tr>
<td>Dolls, American</td>
<td>Weights and measures, Byzantine</td>
</tr>
<tr>
<td>Espionage, Japanese</td>
<td>Writing, Arabic</td>
</tr>
</tbody>
</table>

In our study, we counted 345 entries of inverted headings. This number far exceeds Harris' estimate of "less than 200 such terms in the entire subject headings list" based on her 10 percent sample.

**Conclusion**

Such, then, are the patterns for the direct or inverted form in subject headings containing national adjectives. The basic question that should be raised is, what, indeed, should be the criteria in determining the form of these entries? Harris proposes word frequency as a criterion. While not without merit, this criterion will create inevitably new inconsistencies in entry and confusion for the user. The results of our study suggest a pattern based on subject matter, even though there are subject areas in which no discernible criterion for form of heading exists. Thus, we have American wit and humor but Satire, American; Oriental antiquities but Inscriptions, Oriental; French horn but Music, French. Most direct headings, however, fall into certain subject categories. This observation raises the question whether it is necessary to have only one principle or rule for all subject headings in a certain form, in order to achieve consistency throughout the entire dictionary catalog. If we have a separate subject heading list for each discipline,
consistency would be more easily achieved and discerned. As it exists now, the dictionary catalog contains a conglomerate of disciplines and subject areas. The forms of the subject headings have to adapt to the needs of individual subject matter, resulting in a great number of inconsistencies and irregularities.

Perhaps a more viable approach would be to have different rules for subject headings in different subject areas, though in the same given form. Perhaps, for instance, in literature it is more useful for the reader to have American literature, American drama, and American fiction together rather than having in one place books of or about fiction of various nationalities. On the other hand, in art, it may be more useful for the reader to have paintings, etchings, sculpture, drawings, engravings, lithographs, etc., of various nationalities together rather than having American drawings, American etchings, American lithographs, etc., in one place.

When the national adjectives have lost their national, ethnic, cultural, or linguistic connotations, as in the cases of zoological and botanical terms, and names of musical instruments, it serves no purpose to bring the nouns forward. Hence, the natural word order, with the adjective first, should be retained. In proper names containing national adjectives, such as American Party and Canadian Invasion, 1775–1776, the direct form is also preferred to the inverted form, since other national adjectives are not generally applicable to the same nouns.

The ultimate question whether the subject criterion is indeed a valid one cannot be answered until further investigations, especially user-studies based on subject areas, are made.

REFERENCES

5. Haykin, Subject Headings, p.11.
10. Harris, Subject Headings, p.69.
11. Ibid., p. 79.
The Classification of African Literature
By the Library of Congress

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Illinois Wesleyan University
Bloomington, Illinois

Because the Library of Congress Classification system classifies the various literatures of Africa by the languages in which these literatures were originally written, it scatters them throughout subclasses PJ–PZ. Three different classification patterns emerge. Literary works written in African languages, Ethiopic languages, Hamitic languages, and Afrikaans are classified in accordance with one pattern; the French, Spanish, and Portuguese literatures of Africa are classified in accordance with a second pattern; and the Arabic and English literatures of Africa are classified in accordance with a third pattern. The classification of the works and criticism of English-language African authors emerges as a distinct problem, and a proposal for alleviating this problem is offered.

"WHERE IS THE AFRICAN LITERATURE SHELFED?" Patrons wishing to browse in your library's collection of African belles-lettres might assume that this was a simple and straightforward question. Unless you and your library have carefully prepared for such questions, you may find yourself giving a reply that is far from simple and straightforward.

Neither the Library of Congress (LC) Classification nor the Dewey Decimal Classification provides a single classification range for African literature. Since both systems classify literary works by the languages in which they were originally written, they scatter the various literatures of Africa throughout the schedules for English literature, French literature, Swahili literature, Portuguese literature, and various other literatures.

In this study we shall concentrate upon the LC classification system, seeking to explain its treatment of the belles-lettres of Africa. Although we shall survey the LC classification of the various African literatures, we shall discover that the most frustrating problem is associated with the LC classification of English-language African literature.

What is included within the "literature of Africa?" On this matter

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the LC schedules are ambiguous—perhaps designedly so. Consider the classification range PQ 3980-3989.2, the range reserved for “French literature outside of France—Africa.” The French-language poetry of a black Senegalese would be classed here, as would the French poetry of a white citizen of Senegal—but what of the French poetry of a Senegalese who emigrated to France? There being no instructions in the PQ schedule, the decision would be left to the Subject Cataloging Division of the Library of Congress. One thing is clear: racial distinctions play no role in determining which authors are classed within PQ 3980-3989.2 or comparable ranges.

Contemporary popular usage often equates the literature of Africa with the literature of Black Africa. For the purposes of this study, however, the “literature of Africa” will be defined in an inclusive manner to comprehend the literature regularly assigned by the Subject Cataloging Division to classification ranges such as PQ 3980-3989.2. Although ancient literature as well as juvenile literature will not be considered in this study, the literature of both North Africa and sub-Saharan Africa will be considered.

I

Introduction. Three major patterns, it will be seen, are associated with the LC classification of the various African literatures. In our discussion of these patterns the following shorthand expressions or phrases will be frequently used:

“History”—History and criticism of a given literature.

“Collections”—Anthologies or collections of the works of two or more authors in the original language or in translation, excluding collections of fiction in English or English translation.

“Individual authors”—The works, biography, and criticism of individual authors, excluding works of fiction in English or English translation.

“Fiction in English”—Collections or separate works of fiction in English or English translation.

Note that LC assigns the last category to PZ 1-4.

Pattern I. Let us begin with the simplest classification pattern.

It is self-evident that all or virtually all of the literature written in Yoruba was authored by African authors. That a work of literature is classed in PL 8823.5-8824, the classification range for Yoruba literature, is therefore tantamount to identifying it as African literature. The range PL 8823.5-8824 serves as not only a shelf-location device but also a means of labeling literary works classified within it as works of African literature.

This classification pattern, which we shall call “Pattern I,” emerges whenever all or virtually all of the literature written in a given language is self-evidently African literature. Pattern I is associated with the litera-
ture written in African languages, Ethiopic languages, Hamitic languages, and Afrikaans.

African languages. Like the linguist, the LC system limits the term “African languages” to the indigenous languages of sub-Saharan Africa. The Semitic and Hamitic languages of North Africa and Ethiopia are thereby excluded from the African languages.

The range PL 8000-8844, which is labeled “African Languages and Literature,” consists largely of single numbers or brief ranges of numbers assigned to specific African languages and their literatures. History, collections, and individual authors (note the use of these terms as defined above) of Swahili literature and Wolof literature, for example, are classed in PL 8703.5-8704 and PL 8785.5-8785.9, respectively. Fiction in English translation, however, is assigned to PZ 1-4.

Of particular interest is PL 8010-8013, a brief range bearing the heading “African Literature.” While general histories and collections of literature penned in the African languages are regularly assigned to this range, certain broader histories and collections of the literature of Black Africa are also classed within it. Yet a history or collection of African literature originally written in a specific language, whether Yoruba, English, or another language, is classed by that language (or in PZ 1)—and not in PL 8010-8013. For this reason, as will be seen below, surprisingly few titles in a given collection of African literature may actually be assigned to PL 8010-8013.

Ethiopic languages. The Ethiopic languages are Semitic languages more closely related to Arabic than to the African languages. Included among their number is Amharic, the official language of Ethiopia.

These languages and their literatures are classed in PJ 9001-9293. In addition to the range of numbers provided for ancient Ethiopic literature, there is a ten-integer range for the history, collections, and individual authors of modern Amharic literature (plus an additional range for works of geography, science, and other special subjects written in Amharic). This literature range is longer than that provided for any of the individual African or Hamitic languages.

Hamitic languages. The Hamitic languages are more closely related to the Semitic than to the African languages. Included among them are various vernaculars of Bedouins and mountaineers of North Africa ranging from Mauritania and Morocco in the west to Somalia in the east.

The Hamitic languages as well as their literatures are classed in PJ 2301-2551. Reflecting the undeveloped status of these literatures, this range only occasionally provides explicit provisions for literature. A few scattered numbers are designated for collections of texts, and PJ 2399 is reserved for the history of Berber literature. Otherwise, texts associated with a specific language or dialect would simply be classed with other works on that language or dialect.

Afrikaans. Afrikaans is a South African development of Dutch, an Indo-European language. Although quite dissimilar from the languages
considered above, Afrikaans shares with them the fact that its literature is almost exclusively associated with the continent of Africa.

The PT schedule provides a modestly developed schedule for Afrikaans literature in PT 6500-6590. Provision is made for not only history and collections but also individual authors. (Unlike the LC schedules for African, Ethiopic, and Hamitic languages, which class language and literature in adjacent numbers, the PT schedule provides for the classification of only literature.)

Summary concerning Pattern I. The classification of literature written in African languages, Ethiopic languages, Hamitic languages, and Afrikaans follows what we have called Pattern I. The literature written in any of these languages is primarily if not exclusively an African literature; therefore, the classification ranges for these literatures become in effect classification ranges for African literature. Indeed, these ranges make no provision for non-African literature.

### TABLE 1

**LC Classification of the Various African Literatures**

<table>
<thead>
<tr>
<th>Language in which the Literature Was Written</th>
<th>History and Collections</th>
<th>Individual Authors</th>
<th>Fiction in English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>An African language, Wolof</td>
<td>PL 8785.5-8785.8</td>
<td>PL 8785.9</td>
<td>(PZ 1-4) *</td>
</tr>
<tr>
<td>An Ethiopic language, Amharic</td>
<td>PJ 9260-9268</td>
<td>PJ 9269</td>
<td>(PZ 1-4)</td>
</tr>
<tr>
<td>A Hamitic language, Galla</td>
<td>PJ 2471</td>
<td>PJ 2471</td>
<td>(PZ 1-4)</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>PT 6500-6580</td>
<td>PT 6590</td>
<td>(PZ 1-4)</td>
</tr>
<tr>
<td>Pattern II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>PQ 3980-3988</td>
<td>PQ 3989-3989.2</td>
<td>(PZ 1-4)</td>
</tr>
<tr>
<td>Spanish</td>
<td>PQ 8600-8618</td>
<td>PQ 8619-8620</td>
<td>(PZ 1-4)</td>
</tr>
<tr>
<td>Portuguese</td>
<td>PQ 9900-9908</td>
<td>PQ 9909-9909.2</td>
<td>(PZ 1-4)</td>
</tr>
<tr>
<td>Pattern III</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arabic</td>
<td>PJ 8195-8390</td>
<td>(PJ 7696-7876)</td>
<td>(PZ 1-4)</td>
</tr>
<tr>
<td>English</td>
<td>PR 9798-9898</td>
<td>(PR 1800-6076)</td>
<td>(PZ 1-4)</td>
</tr>
</tbody>
</table>

* Parentheses identify classification ranges which are not reserved exclusively for African literature.

As shown in Table 1, history, collections, and individual authors are classed in these ranges. Only English translations of fiction are assigned to another range, PZ 1-4.

**Pattern II.** The French poetry of Léopold Senghor, the president of Senegal, is classed within PQ 3980-3989.2, a range reserved for the French literature of Africa. Whereas the verse of France's Raymond
Queneau, for example, is given a classification which marks him as a Frenchman, the poetry of Senghor is assigned a classification which identifies him as an African. In a similar manner, a history or anthology of Parisian literature would be classed with the French national literature, while a history or anthology of French African literature would be classed in PQ 3980-3989.2. A clear distinction is maintained.

This pattern, which will be labeled "Pattern II," is associated with the classification of the French, Spanish, and Portuguese literatures of Africa.

French, Spanish, Portuguese. The French, Spanish, and Portuguese literatures of Africa are classed in PQ 3980-3989.2, PQ 8600-8620, and PQ 9900-9909.2, respectively. The history, collections, and individual authors of these literatures are classed in these ranges, which are distinct from the ranges designated for the respective national literatures. Since these ranges do not divide African literature into regional or national literatures, they classify an author like Senghor as an African and not as a Senegalese or even as a West African. English translations of fiction, of course, are shifted to PZ 1-4.

Italian. Two class numbers, PQ 5975-5976, are reserved for "Italian literature outside of Italy—Africa." It could be assumed but not demonstrated that this literature would be classed according to Pattern II, for, as of 12 June 1972, no works had been assigned these numbers by the Library of Congress.

Pattern III. Pattern III is more complex.

An anthology of English drama written by African playwrights is classed within PR 9798-9898, "English literature outside of Great Britain—Africa," but an anthology of British drama is assigned to a range reserved for the British national literature. The drama of Kenya's James Ngugi, however, is classed in PR 6050-6076 along with the British national literature. Finally, his novels are assigned to PZ 1-4.

As this example shows, a tri-partite pattern emerges. History and collections of the English literature of Africa are classed in a range distinct from the British national literature; individual English-language African authors are intermixed with all other English-language authors except Americans; and fiction is scattered throughout PZ 1-4. The range PR 9798-9898 carries a distinct identification with English-African literature, but the class numbers for individual English-African authors do not. The class number for Ngugi's drama, PR 6064.G8, and the number for his novels, PZ 4.N5688, are little more than sophisticated mechanisms for shelf-arrangement.

This pattern, Pattern III, applies to the classification of the English and Arabic literatures of Africa.

Arabic. The revised LC schedule for Arabic (North Arabic) literature provides an ample range of numbers for the history and collections of the Arabic literature of Africa. This range, PJ 8195-8390, designates separate brief ranges for the Arabic literature of five nations of North...
Africa plus Zanzibar. Yet individual authors are classed in PJ 7696-7876, where they are interfiled with all other Arabic authors. Individual Arabic-language African authors are thus classified as Arabic authors—but not as African authors.

**English.** The history and collections of the English literature of Africa are classed in PR 9798-9898, a range to be discussed in greater detail below. Individual authors are classed in PR 1800-6076, the vast range of numbers for non-American English-language authors. Since the majority of English-language African authors are comparatively young, they tend to be classed in PR 6050-6076, the range for authors who flourished after 1960.

**German.** A single theoretical number, PT 3951, is reserved for the history and collections of German-African literature, but as of 12 June 1972, no works had been assigned to this number. Individual authors would be handled in accordance with Pattern III.

**Conclusion.** As Table 1 shows, three principal patterns are associated with the classification of the various literatures of Africa.

Pattern I arises in conjunction with the classification of the various literatures written in African languages, Ethiopic languages, Hamitic languages, and Afrikaans. Since these literatures are almost exclusively written by African authors, the classification numbers reserved for them become de facto ranges for African literature. History, collections, and individual authors are assigned to these numbers, but English translations of fiction are shifted to PZ 1-4.

Pattern II applies to the classification of the French, Spanish, and Portuguese literatures of Africa. History, collections, and individual authors are classed in brief ranges reserved for these literatures but separated from the ranges for the national literatures. English translations of fiction are placed in PZ 1-4.

Pattern III is associated with the classification of the Arabic and English literatures of Africa. Although history and collections are classed in numbers reserved for African literature, individual authors are assigned to the classification ranges for the national literature. In the latter case, classification becomes little more than a shelf-location device. Once again, fiction in English (or English translation) is consigned to PZ 1-4.

Classification by the LC system is basically a practical rather than a theoretical art. To bridge the gap between the general discussions found in the preceding paragraphs and the realities of an actual situation, it will be useful to examine the classification of an actual collection of African literature. To this task we shall now turn.

**II**

A specific example. If a library which uses the LC classification has developed a research collection of African literature, it has probably assigned titles to most or all of the classification ranges described in the
preceding paragraphs. For such a library these paragraphs have provided a summary response to the question, “How do you classify African literature?” Can the same be said concerning a library which is building a modest collection of African literature in English or English translation but is not developing a research collection in this area? While the answer will obviously vary from library to library, the experience of one undergraduate college library may be instructive.

During 1972 the Illinois Wesleyan University libraries faced the problem of classifying the initial eighty-three titles of the African Writers Series (AWS) published during the past decade by Heinemann Educational Books, Ltd. Composed of primary works written in English or translated into English from Arabic, French, Portuguese, or various African languages, this respected series contains works of individual authors as well as collections and anthologies. Even though poetry, plays, essays, short stories, and novels appear in this series, short stories and novels predominate. While this series contains many titles which would be basic to any collection of African literature, its emphasis upon the works of individual authors—especially the fictional works of these authors—provides the classifier with a particular challenge. Two notable problem areas become highly visible: PR 6000-6076 and PZ 1-4.

The class numbers assigned these AWS titles by the Library of Congress were sought in the National Union Catalog (NUC). Of the eighty-three titles with which we began, nineteen were necessarily deleted from the sample to be analyzed below. Thirteen of these nineteen were classified outside subclasses P-PZ in such subject areas as African political history or African folklore, while the remaining six either were not represented in the NUC through March 1972, or were represented only by non-LC cataloging which lacked LC classification numbers. We are left with a sample composed of sixty-four AWS titles which were assigned to LC subclasses PJ-PZ.

Accepting PZ numbers. Let us first consider what would happen if the LC numbers—including PZ numbers—were accepted as published in the NUC. The first column of figures in Table 2 gives the results.

Only ten of the sixty-four titles would be placed in classification ranges explicitly reserved for African literature. These ten include two classed in PL 8000-8844, “African languages and literature”; two in PQ 3980-3989.2, “French literature outside of France—Africa”; and six in PR 9798-9898, “English literature outside of Great Britain—Africa.” These ten represent less than one-sixth of the sixty-four titles in our sample.

The remaining fifty-four titles would be given little more than shelf-locations. Six would be classed in PR 6000-6076, “English literature—20th century” while the other forty-eight would be assigned to PZ 1-4, “Fiction in English.” Four novels by Chinua Achebe, for example, would be classed in PZ 4.A17, two by Elechi Amadi would be placed in PZ 4.A48, one by Ayi Kwei Armah in PZ 4.A725, etc. Such classifications

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would do nothing to identify these titles as works of African literature. Surely there is a better solution.

**TABLE 2**

**LC Classification of Sixty-Four African Writers Series Titles**

<table>
<thead>
<tr>
<th>LC Classification Ranges</th>
<th>Accepting PZ Numbers</th>
<th>Using Alternative Numbers</th>
<th>Following Proposed Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranges Reserved for African Literature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PL 8000-8844, African lang./lit.</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>PQ 3980-3989.2, French-African lit.</td>
<td>2</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>PR 9798-9898, English-African lit.</td>
<td>6</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>Subtotal</td>
<td>10</td>
<td>17</td>
<td>61</td>
</tr>
<tr>
<td>Ranges Intermixing African and Non-African Literature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PJ 7800-7876, Arabic lit.</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PR 6000-6076, English lit.</td>
<td>6</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td>PZ 1-4, Fiction in English</td>
<td>48</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Subtotal</td>
<td>54</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

*Using alternative numbers.* Recognizing that many of the libraries that had adopted the LC classification had become dissatisfied with PZ 1-4, the Library of Congress began late in 1968 to provide alternative numbers for those titles which it continued to class in PZ 1-4. Through the utilization of these alternative numbers, it should be possible to avoid the classification pattern already described. Unfortunately, as we shall see, a new dilemma will come to the fore.

Alternative numbers were sought in the NUC for the forty-eight AWS titles which had been classed in PZ 1-4. These alternative numbers were assigned whenever they could be established, even if they were not supplied on the NUC cards for many of these AWS titles themselves. By searching the NUC through March 1972, it was possible to establish alternative numbers for forty-two of these forty-eight titles. Through the use of reference tools, it was possible to assign the remaining six to at least their proper classification ranges. (Our decision to reject PZ numbers creates, of course, a new dilemma: How shall we classify these six titles?) The sixteen AWS titles which had originally been assigned to subclasses PL, PQ, and PR were naturally left in those subclasses.

The second column of Table 2 reports how the sixty-four AWS titles would now be distributed.

Seventeen titles would now be classed in ranges explicitly identified with African literature. Included within these seventeen are three titles.
assigned to PL 8000-8844, eight to PQ 3980-3989.2, and six to PR 9798-9898.

The remaining forty-seven titles would be classed in ranges which intermix African and non-African literature. The vast majority, forty-four, would be concentrated in a single range, PR 6000-6076. Unfortunately, these forty-four titles would be classed as "English literature"—defined as literature written by English-language authors other than Americans—and not as English-language African literature. As a result, these titles would be intermixed with the works and criticism of English, Scotch, Irish, Canadian, West Indian, Australasian, and Indian authors, and would be given classifications that would be little more than shelf-location devices. The three remaining titles—two that would be assigned to PJ 7800-7876 and a maverick that would be placed in another classification—would also be classed in ranges not exclusively reserved for African literature.

Although we have replaced PZ numbers with alternative numbers, we have found that forty-seven of the sixty-four titles would still be left with classifications providing little more than shelf-locations. The new villain chiefly responsible for this pattern is PR 6000-6076.

Patterns II and III. Why are English-language African authors classed in PR 6000-6076 rather than PR 9798-9898, the range for English-African literature? Does this practice rest upon a fundamental principle underlying the LC classification of literature? The answer is negative.

The existence of what we have called Patterns II and III points to the fact that the LC literature schedules are not consistent in their treatment of the authors of nonnational literature. Pattern III, which classes individual authors with the national literature, is the more prevalent pattern, for it applies to the classification of not only English literature but also Arabic, Chinese, Russian, and various other literatures. Pattern II, which assigns individual authors of nonnational literature to special ranges distinct from the ranges for national literature, is particularly associated with subclass PQ, a subclass which contains, for example, detailed schedules for not only the individual Spanish-language authors of the various Latin American nations but also the individual Portuguese-language authors of Brazil. The French, Spanish, and Portuguese literatures of Africa, we have seen, are also classified by Pattern II.

 Portions of the nonnational literature of a given language may be classified in accordance with each of these patterns. The French literature of Belgium and of other European nations is classed by Pattern III, but non-European French literature is classed by Pattern II. Even though nonnational literature written in German, Dutch, and four Scandinavian languages is generally classed by Pattern III, North American literature penned in these languages is classed by Pattern II. Whereas subclass PR, "English Literature," follows Pattern III, subclass PS, "American Literature," represents an elaborate example of Pattern II.

Interestingly enough, the 1915 edition of the PR schedule displayed
some recognition of the limitations of the pattern it had adopted, Pattern III. Instructions placed prior to PR 8300-9899, the section then termed “English Literature: Provincial, Colonial, Etc.,” indicated that The works and biography and criticism of individual authors are to be classified in PR 1800-6049, but are to be represented by added entries in the card shelf list in PR 8300+.7

If these instructions were still being followed, the Library of Congress' shelflist for PR 9798-9898 could now be used as a means of identifying the works and criticism of English-language African authors classed in PR 6000-6076. Although the portion of this note following the comma has since been deleted, its inclusion in this schedule testifies to an awareness even in 1915 of the difficulty of identifying and retrieving provincial and colonial literature when it is shelved with the British national literature. Comparable instructions appear seven other times in the PJ, PL, and PT schedules.8

Both Pattern II and Pattern III are therefore “acceptable” LC classification patterns. Pattern III undoubtedly expedites the task of classification, for it frees the classifier from the task of verifying the nationalities of authors. Yet Pattern III causes problems such as the one we have discussed, the problem of scattering English-language African authors throughout the English literature collection. Pattern II would provide these authors with more meaningful classifications.

Classification by Pattern II. To illustrate this claim, the final column of Table 2 shows the pattern that would result if individual English-language African authors in the AWS series could be classed by Pattern II rather than Pattern III. The number of titles assigned to PR 9798-9898 would jump from six to fifty, while the number of titles placed in ranges specifically identified with African literature would leap from seventeen to sixty-one.

Such a change would be a boon for the browser. The 1964 “Statement on Types of Classification Available to New Academic Libraries” observed that “it is practically impossible to browse with LC, although people try it all the time.”9 Our discussion of the LC classification of AWS titles has illustrated the claim that “it is practically impossible to browse with LC,” for it has shown that a browser would have little success in finding the works of English-language African writers. In view of the fact that “people try it [browsing] all the time,” however, there is surely merit in considering feasible options aimed at improving browsability. Our proposal represents such an option. The small or medium-sized open-stack library which is building a nonresearch collection of African literature in English or English translation would be a particular beneficiary of such a change.

The classification of English-language African authors in PR 9798-9898 rather than PR 6000-6076 would also assist automated retrieval. Consider the problem of searching MARC tapes for African literature. How could a computer identify the literary works of African authors as works of African literature? Since such works are seldom assigned
subject headings, they can usually be retrieved only by author entries, title entries, or class numbers. Of these three means of access, class numbers obviously offer the greatest potential for an automated search. If the works of African authors have been assigned class numbers specifically associated with African literature, they can be readily identified as works of African literature by a search by these class numbers. If these works have been classed in ranges such as PR 6000-6076 or PZ 14, however, their retrieval by class number would be impossible.

If individual English-language African authors were to be classed by Pattern II, provision for them would naturally have to be furnished in PR 9798-9898 or an extension thereof. Since this range is currently rather thinly populated, its revision could be accomplished with minimal disruption. Of the sixty-four titles found in the Library of Congress' shelflist for this range on 12 June 1972, twenty-five were concentrated in PR 9798-9799, twenty-one were scattered throughout PR 9800-9897, and eighteen were grouped in PR 9898. No books had been classed in more than 75 of the 101 integers within this range. If necessary this range could be easily expanded, for it is followed by a lengthy range, PR 9900-9999, which is currently unassigned.

Closing comments. In the previous paragraphs we have seen that the classification of individual English-language African authors by Pattern II provides the key to their retrieval as African authors. Whereas neither the acceptance of recommended LC numbers nor the utilization of alternative numbers results in more than seventeen of our sixty-four AWS titles being assigned to ranges specifically reserved for African literature, the classification of English-language authors by Pattern II plus the acceptance of alternative numbers for other authors results in sixty-one of these sixty-four titles being classed in such ranges. We have seen that the classification of nonnational literature by Pattern II is an acceptable LC practice, and that the revision or expansion of PR 9798-9898 should not be unduly difficult.

Such a revision would fail to satisfy those who would like to gather all African literature within one subclass or classification range, but it would accomplish a substantial task, the gathering of the increasingly significant English literature of Africa into a single classification range. This proposal is presented at a time when the corpus of this literature is still comparatively small—but obviously growing. With a host of African authors currently writing in English, there can be little doubt that the importance of English-language African literature will also continue to grow.

Postscript

Recent developments. The preceding paper, which was completed during October 1972, describes the classification of African literature as practiced by the Subject Cataloging Division of the Library of Congress during mid-1972, and presents an alternative proposal for the classification of the works and criticism of individual English-language African
authors. Since the completion of this paper, the Subject Cataloging Division not only has accepted in principle this proposal but also has incorporated it within a recently-published revision of the schedules for “English literature outside of Great Britain.” These developments require a brief review.

The January-March 1973 list of LC Classification—Additions and Changes presents the newly-created range PR 9080-9670, “English literature outside of Great Britain,” as a thoroughgoing revision and replacement of the former range PR 9080-9899.11 One of the notable changes effected by this revision was the transfer from PR 9798-9898 to PR 9340-9408 of the range for the English literature of Africa. An anthology of English Nigerian plays that formerly would have been classified as PR 9898.N57, for example, would now be placed in PR 9387.7. The old range for the English literature of Africa, PR 9798-9898, has been vacated and left unassigned.

Incorporated into PR 9340-9408, the new range for the English literature of Africa, are instructions that the works and criticism of individual English-language African authors are to be classified with the literatures of their native lands. For example, the English plays of an individual Nigerian author, which formerly would have been classified within PR 6050-6076 along with the works of contemporary British, Canadian, Pakistani, and other English-speaking authors (other than American authors), would now be assigned to PR 9387.9, a number defined as “English literature outside of Great Britain—Africa—Nigeria—Individual authors.” The new schedules for the English literature of Africa thus would assign these plays a classification number which is explicitly associated with African literature—and even with a specific African literature, English Nigerian literature.

The instructions to classify the works and criticism of individual authors with the literatures of their native lands appear not only in PR 9340-9408 but also throughout PR 9080-9670, the new range for “English literature outside of Great Britain.” As a result, the works and criticism of individual Canadian, Pakistani, and other English-speaking authors are also to be classified within PR 9080-9670. At one important point, however, there is no change: the Subject Cataloging Division continues to assign “Fiction in English” to PZ 1-4.

REFERENCES

1. The LC schedules for the various African literatures have frequently been revised. To verify the classification numbers cited throughout this article, it is often necessary to check not only the original published editions of the literature schedules but also the various lists of LC Classification—Additions and Changes.


3. This assumption is based on the pattern suggested by PQ 5984, PQ 5988, and PQ 5999-5999.2.

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4. This section describes practices employed by the Subject Cataloging Division of the Library of Congress prior to April 1973. During April the Subject Cataloging Division began assigning English-language African literature to a newly-designed range, PR 9340-9408, which is reviewed in the Postscript to this paper.

5. The determination of the boundary between African folklore and African literature is an additional dilemma facing the classifier of African literature.


8. These instructions appeared in the printed editions of the Arabic, Chinese, Danish, Dutch, German, Norwegian, and Swedish literature schedules. All of these instructions have since been cancelled.


IN THE MAIL

O.P. Microfilming

We have read with interest Ernest R. Perez’ article, “Acquisitions of Out-of-Print Materials” [Winter 1973]. There are some points which we believe warrant further explanation or discussion.

For example, in his second full paragraph on page 43 he states that, “One method that should not be overlooked when considering microform copies of o.p. materials is the copying of another institution’s films or the production of a single copy of microfilm from an original text.” Perhaps your readers should be advised that they may violate copyright by so doing. In any case, a subprofessional in a library would in all likelihood find it very difficult to copy film and process it to library standards without a good deal of technical photographic knowledge and experience. The statement that “Kodak microfilm runs about $3.50 per 100 foot roll” might be construed by some of your readers to indicate that the cost of the film would be the entire cost of the reproduction process, especially when read in context with this statement that “the process is not difficult.”

In his next paragraph Mr. Perez states that “obtaining o.p. material on film from University Microfilms is a costly procedure, especially for items in photocopy form, produced by using the Xerox Copyflo process…” Our price for microfilm of most o.p. items is $.0175 per page. The price for xerographic books is $.05 per page, and in both cases the price includes searching, obtaining needed permissions, paying library access fees where applicable (much of our material comes from publishers) and copyright fees, as well as the photography, the copy made from the master, storage of the master copy, and all the related costs of publishing. Moreover, the purchaser receives a copy packaged for use: the microform is in a carton, the xerographic books are bound with paper covers. The microform is processed to archival standards and paper copies are on durable, acid-free paper. Both are made to industry standards. Mr. Perez’ assertion that “acquisition of o.p. material on microfilm from University Microfilms, is “a ‘last resort’ because of its expense” ought to be supported by actual detailed cost figures from alternate sources; otherwise, the careful reader cannot make comparisons for himself.

Mr. Perez asserts, in the final paragraph on page 43, that “A more economical method of getting o.p. material on microfilm would be to locate and borrow a copy, get permission to copy it, check for copyright status, and have a microfilm of the item made locally.” If he can furnish all of these services for less than $.0175 per page in a single microform copy, or for less than $.05 per page for bound xerographic books in single copies, then your readers ought to be told what the price would be and what standards would be followed.

Rotary, or flow, camera are the kind generally used “for storage filming of financial documents, records, personnel data, etc.,” and cannot be used for photographing bound materials. Mr. Perez may have something else in mind, and if so, should say what it is for the benefit of your readers.—Stevens Rice, vice president, Editorial Development, University Microfilms.

Ernest Perez replies: My article, written in 1971, was primarily concerned...
with antiquarian book trade acquisitions avenues rather than microform methods and evaluation.

I was writing about getting o.p. material for a specific library for specific user needs or for planned collection development, not for sale purposes. I did not then feel that microfilming of o.p. materials borrowed on interlibrary loan would be a copyright violation, any more than getting photocopies material via ILL would be a copyright violation. I thought that one-of-a-kind microfilming of o.p. material could come under “fair use,” since it was not for sale. Current doubts about the legality of any method of copying were not such a question at the time of writing.

I agree with Mr. Rice that bound volume copying is not possible on a rotary camera. I did not specify, but meant, that nonprofessional labor be used to film text with a planetary camera, which is capable of copying bound material, and which is also commonly accessible to use. Duplication of another institution’s microfilm or processing of in-house exposed microfilm can be handled by a microfilm service company or a local Kodak lab, if qualified technicians are not accessible. Processing cost at a service company I deal with in Houston runs $3.50 for a single 100-foot roll of 85 or 16mm film, with a $3.00 minimum for part of a roll. Roll-to-roll duplication of a single roll costs $7.50. A reputable service bureau or a Kodak lab certainly produces archival quality processing.

The convenience of University Microfilms film or xerox bound copy to supply needed o.p. titles is worth the expense, if there is a need for quick access to the material and if University Microfilms has the material in their “on demand” stock. I think that nonstock items could be acquired more quickly by in-house or local service bureau filming of ILL-borrowed copies, and usually more cheaply by antiquarian market purchase of an o.p. original copy.

I feel that nonprofessional staff can be trained to do the actual labor of filming at a constant and good quality level, and that local Kodak or reputable service bureau processing put out an archival quality end product. Many of my fellow librarians on other major newspapers are doing just this to reduce bulk of their files, while preserving the information.

SUDOCS Classification

Leroy Schwarzkopf offers [Winter 1972, p. 95-97] a reaction to my article, “Handling Changes in Superintendent of Documents Classification” [Spring 1971]. Since the problem of changes in SD classification is still a relevant issue, I would like to make a belated reply to some of Mr. Schwarzkopf’s criticisms.

I felt compelled to respond because Mr. Schwarzkopf, in his apparent eagerness to present the opposing argument in the debate, misrepresents the sense of my remarks in some instances, and himself serves up “… some very bad advice for federal government documents librarians.”

In paragraph 1 of his letter he suggests that by recommending option 3 (complete reclassification) I “… failed to properly weigh the advantages and disadvantages of the alternative courses of action.” This statement misrepresents both the spirit and letter of my argument. Although I do recommend complete reclassification as the most desirable solution, my endorsement is tempered by an awareness of the disadvantages of this solution, the potential appeal of option 2 (which Mr. Schwarzkopf favors), and the possibility of a compromise be-
tween options 2 and 3 (i.e., giving first priority to the reclassification of closely linked sets). My remarks are simply not as one sided and absolute as my critic would have your readers believe.

In his second paragraph, Mr. Schwarzkopf states, "Simmons minimizes the amount of added time and work necessary to reclassify old material." This is also a misrepresentation. Having reclassified many documents myself, I am fully aware of the complexities involved, and this awareness is reflected throughout my presentation. My final paragraph is devoted to the dual point that reclassification is indeed very involved, but that documents librarians should do it anyway. My last two sentences read,

Opponents of full reclassification may point out the great amount of time and work required to complete this process. Libraries committed to the use of Superintendent of Documents classification, however, should recognize the fact that constant change is an inherent feature of the system, and that reclassification is a legitimate and routine function of the documents librarian.

The bad advice which Mr. Schwarzkopf offers is his recommendation that documents librarians follow option 2 (assigning new notations to publications issued after the change; leaving old notations on material issued before the change). My reply to this is that option 2 results in splitting periodicals and other organically linked sets in some instances three, four, five, or more times. This alternative violates a fundamental principle of good librarianship—that material be organized in a sensible way. It is by no stretch of the imagination sensible to locate a connected set of volumes in three or four separate shelf locations if it can be avoided. Option 2 results in many such separations.

Mr. Schwarzkopf's supporting point, that the use of SD notations as assigned "... brings together all publications of a major executive department or administration at a specified time period," is at best a purely technical factor with little value to library patrons searching for documents because of the knowledge it presumes. But even on the technical level this contention is not accurate. The Federal Security Agency ceased to exist in 1953, yet documents were still being issued with its assigned letter designation (FS) until 1969. Even if documents users were intimately familiar with the alterations in the federal bureaucracy, as Mr. Schwarzkopf's point assumes, the SD notations as assigned still would not make much sense.

He further argues that large, older collections especially should be excused from the logic of putting like things together, because of the great amount of work involved. He complains,

...I am the documents librarian at a state university library which is also a regional depository. In our situation, following Simmons' advice would have required changing the numbers, records, and shelf location of thousands and tens of thousands of publications not only once, but as often as five times on some series of publications.

The larger and older the collection, however, the more outrageous the fragmentation is likely to be if all old notations are allowed to stand.

Though he overstates his case, there is merit to some of what Mr. Schwarzkopf says; and documents librarians will find his input useful in making a decision on which procedure to follow. One of my reasons for writing this letter was to draw attention to the fact that changes in Superintendent of Documents classification present a continuing problem with various solutions. My article favors one side in the debate, and my side of the argument, too, has merit. Mr.
Schwarzkopf would have your readers believe otherwise.—Robert M. Simmons, Curriculum Librarian and Documents Librarian, Clement C. Maxwell Library, Bridgewater State College, Bridgewater, Massachusetts.

LeRoy Schwarzkopf replies: I am glad to learn that Robert M. Simmons finds some merit in my arguments against reclassifying U.S. government documents [Winter 1972, p.95-97]. However, I am sorry that he feels I did not admit to any merit in his arguments for reclassifying older publications to new numbers upon a change in Superintendent of Documents (SUDOCs) classification as discussed in his original article [Spring 1971]. On the contrary, Simmons quotes a passage from my letter where I admit there were advantages in the procedure he had recommended (designated as option 3). I did not discuss these advantages since Simmons had done so ably in his article. Indeed, I must admit that in his article Simmons also presented some, but not all, of the major advantages and disadvantages of the three options available to documents librarians. The thrust of my argument was that according to my evaluation the advantages to be gained by using option 3 were so far outweighed by the disadvantages that I could not recommend this procedure, particularly for large separate documents collections.

As for Simmons' remark that I had given bad advice to documents librarians to retain the SUDOCs number as originally and permanently assigned (designated as option 2) I probably deserve this since I had accused Simmons of giving bad advice. Apparently Simmons is honestly and deeply convinced that his advice is better, as I likewise have a deep conviction that my recommendation is better. Since there is such a wide and basic difference of opinion, I think it is healthy for us to air our differences, and to allow documents librarians to make their own judgments which procedure is better for their particular situations.

However, I should like to comment on some of the points which Simmons offers in rebuttal. As for misrepresenting his remarks, Simmons in his article recommends that "complete reclassification of old and new publications to conform with notation changes, should be the ultimate goal of documents librarians." Now he admits that while this is the "most desirable solution," as a practical matter he really favors a compromise between his ideal solution of complete reclassification (option 3) and option 2 (assigning new notations to publications issued after the change, leaving old notations on materials issued before the change). His ideal solution involves making a major exception to the use of the SUDOCs classification system as it was designed, and is used by its sponsor. Now he suggests that one should make only a limited exception, i.e., make exceptions to the major exception. If I interpret his article and letter correctly he would give first priority to periodicals and other "closely linked sets" such as numbered publications in a series.

I certainly cannot accept that Simmons' claim in paragraph 5 that using option 2 "violates a fundamental principle of good librarianship—that materials be organized in a sensible way." Nor can I accept his statement in paragraph 6 that my argument that the SUDOCs classification system did indeed bring like things together (i.e., "all publications of a major executive department or administration at a specified time period") was a "purely technical factor." This argument was not facetious as Simmons implies, but is very basic to this discussion about the principles of any classification and/or locator system. The SUDOCs classification system is based on provenance, as are most systems for
archives or records administration. When Project Head Start was transferred from the Office of Economic Opportunity (OEO) to the Department of Health, Education and Welfare (HEW), the records created by OEO before the transfer will be filed by the archivist with that agency, and after the transfer with HEW. The same principle applies to publications which are classified by the Superintendent of Documents. Both systems operate under a principle of *provenance*. Is it sensible for the archivist, but not for the documents librarian, to file together materials originated by a specific agency during a specified period in time?

With respect to this discussion of maintaining the integrity of, and observing the basic principles of a particular classification system, Simmons fails to respond to my arguments that indeed other classification systems do not always bring like things together on *the shelves*, and that although it is a disadvantage I do not consider it to be a serious one. In my letter, I point out that our main book classification systems are based on subject. However, a book usually contains more than one subject, and can be classified only by the main subject. These many other subjects are brought together in one place in the card catalog. This illustrates another major purpose of a notation system, i.e., a location identifier. In addition to notation systems based on subject classification, I also mention systems based on serially assigned accession numbers. Actually SUDOCS employs such a system within the main system, i.e., the congressional serial set. This type of notation system is often used in filing technical report literature. As a curriculum librarian Simmons should be familiar with such a system, namely ERIC documents. Does Simmons consider this to be a sensible system, or is he busily reclassifying and refiling ERIC documents by subject, or perhaps by author? Indeed the main entry in the typical card catalog is the author. Would it be more sensible to shelve books by author, rather than by LC or Dewey subject classification systems? I do not consider the many separations on *the shelves* of related materials under option 2 to be a serious disadvantage as long as they are brought together in the records. This argument is also presented by Lyle in “Utilizing the Superintendent of Documents System Without Reclassification” [Fall 1972].

I am glad that Simmons again brings up the horrible example of the continued use of the “FS” notation symbol after 1953, when the agency to which it was originally assigned (Federal Security Agency) was redesignated as the Department of Health, Education and Welfare. In this case the Superintendent of Documents violated the integrity of his own system. However, this illustrates that when making an exception he prefers the use of option 1, not option 3. Option 1 involves using the old classification number after a new number has been, or should have been, assigned. Indeed he is currently following option 1 in assigning “C3” rather than “C56.200” numbers to publications of the 1970 Census of Population and Housing which were issued after the transfer of the Bureau of the Census to the newly established Social and Economic Statistics Administration. Simmons discusses option 1 in his article and lists three disadvantages for it. Since both options 1 and 3 violate the integrity of the system by not using the notation number permanently assigned to the piece, two of the disadvantages of option 1 are equally applicable to option 3. With respect to limiting the usefulness of the Monthly Catalog, Simmons considers this a major disadvantage for option 1, but merely an “inconvenience” for option 3. Simmons also lists as another disadvantage of option 1 that it would violate “the intention of the Superintendent of Documents classification to conform to the structure

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of the federal government." However, he does not mention, or apparently consider this to be a disadvantage for option 3 which does the same thing for older publications that option 1 does for newer publications. The third disadvantage which Simmons mentions is that a documents librarian using option 1 could not immediately transfer the numbers on the shipping list of the piece. However, he fails to mention certain disadvantages of option 3 which option 1 avoids: the requirement to change the numbers on, and reshelve, older materials.

I certainly cannot accept Simmons' argument in paragraph 7 that documents librarians of large separate collections are acting illogically or need an excuse for using option 2. Simmons comments that the "larger and older the collection, however, the more outrageous the fragmentation of materials is likely to be if old notations are allowed to stand." I do not consider this fragmentation of materials on the shelves to be a serious deficiency if the materials are brought together in the records. I do consider it to be more outrageous to reclassify the same materials over and over again as the collection gets older and larger. It includes not only changing records (not too great a chore), but also changing the numbers, and reshelving and shifting the older materials. This involves an outrageous amount of unnecessary work in a large collection.

I agree with Simmons that this is a "continuing problem with various solutions." I hope that this dialog has furnished pertinent information to documents librarians so that they can weigh the advantages and disadvantages of the three options mentioned, or any combinations thereof, and choose the course which is most appropriate for their situations.

**SUDOCS Classification—More**

There have been numerous articles written on the value of the SUDOCS classification for organizing federal government documents but few have been devoted to analyzing the value of that classification in terms of information retrieval. Does the SUDOCS classification facilitate retrieving information from government documents as efficiently as other classification schemes do? The SUDOCS classification essentially provides location symbols bringing documents together based on issuing agency rather than on subject or title. Therefore, it is frequently necessary to consult the Monthly Catalog and other bibliographical tools to identify the document desired by the patron. This identifying process is often time-consuming, difficult, frustrating, and unsuccessful.

If we want to promote a wider and more effective use of government documents, the identifying process should be short and effective; this is the area in which document librarians' expertise and efforts must be fully employed in order to make fuller use of government documents. No matter what organizational scheme the library may adopt for maintaining the documents collection, it is the responsibility of document librarians to make the scheme workable through their reference service.

Government documents are frequently interdisciplinary in their coverage of subject and most of them are major sources of statistics. Often titles do not indicate the type of information contained in them. It is in the area of government documents where "a direct service to the public by working with patrons on their reference questions" is highly desirable in order to bring about a better use of government documents.

Mr. Lyle is correct in advising that document librarians should be more con-
cerned with a direct and intimate assistance to the patrons in their use of government documents. We should be more concerned about an efficient process of retrieving the information contained in variously formatted government documents than the technical processing of them.—Jai L. Yun, Documents Librarian, State University of New York at Stony Brook, Stony Brook.

The recent article on “Utilizing the Superintendent of Documents System without Reclassification” by Jack W. Lyle [Fall 1972] provides an excellent rebuttal to a previous article by Robert M. Simmons on “Handling Changes in Superintendent of Documents Classification” [Spring 1971]. In making his case against reclassifying Superintendent of Documents (SUDOCS) classification numbers, Mr. Lyle reinforces several points which I previously made in my letter to the editor criticizing Simmons’ “misguided advice.” [Winter 1972, p.95-97]

While I heartily endorse that portion of Lyle’s article which discusses the disadvantages and pitfalls in reclassifying SUDOCS numbers, I am very disappointed in that part of his “how we do it in our library” article concerned with record keeping. His methods do not appear to be typical of those used in other depository libraries, and his description of how his record keeping methods would “bring together all publications in the same series” is not clear.

My comments are based not only on the record keeping practices in our library, but also on observation and comparison of such practices in other depository libraries in at least sixteen states. As a regional depository librarian, I am familiar with the practices of other depositories in Maryland, and I have visited a number of out-of-state depositories, mostly regional and/or university libraries.

First, I find the use of visible record files for government documents not the typical practice. I encountered only two libraries where such records were being used extensively, primarily for serials. These visible record files were augmented by 3 x 5 inch catalog cards for recording the holdings of separate publications: i.e., nonserial publications whose book number is a Cutter number, or serial publications with a complicated numbering system, such as EPA Water Pollution Control Research Series publication number 16080 DON 02/72. As a general rule I found that depository libraries use three types of 3 x 5 inch form catalog cards, plus plain catalog cards. The form catalog cards include: (1) a card with numbers 0 to 99 in 10 columns, used for checking in and recording holdings of numbered publications in series which use a simple consecutive numbering system; (2) a year card, used for annual reports and serials; and (3) a month/year, or periodical card, used for recurring serials, mainly periodicals which are issued on a weekly to semianual basis. Lyle mentions the use of an insert to the year card as a periodicals record card.

A plain catalog card is normally used for recording separate publications. Lyle mentions a “lined card” for this purpose. He offers no information about the amount of cataloging information entered on the card. I find that depositories exercise three options in preparing plain catalog cards providing the least to the most information as follows: (1) list only the book number on the card, with the heading for corporate author and/or the item or series title, allowing fifty or more entries per card; (2) list on one line the book number, title (abbreviated, if necessary) and date, allowing about ten entries per card; or (3) prepare a separate card for each title.

The illustration of the year card in Lyle’s article with entries for the Statis-
tical Abstract is apparently intended to show how to "bring together all publications in the same series" on one card. It is not clear how it would accomplish this unless the main entries in the catalog are titles entries which are filed alphabetically. However, Lyle indicates that he maintains his file in shelflist order. I find that depositories maintain only one set of records, with few if any added entries for titles and/or subjects. They arrange these records either in shelflist order, or alphabetically by corporate author. In using shelflist order, they must prepare a new card whenever there is a change of SUDOCS number. In using an alphabetical arrangement by corporate author, they must prepare a new card if the change in SUDOCS number also results in a change in author and/or title of a series.

In either of the above situations the documents librarian must enter cross-references on both the new and old record cards. This is not too burdensome when compared with the extensive amount of changes required for reclassifying. The important thing is that the documents librarian has an accurate record of his holdings and their location. I do not find it essential to have all publications in the same series shelved together in the same location, or listed on the same record card as long as there are adequate cross-references. Lest some documents librarians comment that this is fine for a closed collection, let me assure them that not only are our collections shelved in open stacks, but also our records are located in the documents reference room and are open and available to the public.—LeRoy C. Schwarzkopf, Government Documents Librarian, McKeldin Library, University of Maryland, College Park.

CORRECTION

Footnotes 2 and 9 of Frances L. Hopkins "General Classification Theory—A Review of Classification Research Group Work" [Spring 1973] were published incorrectly and should read:


The error is regretted.
REVIEWS


This valuable publication should be especially helpful to those librarians and scholars who do not quite know what to think about the field of recorded sound. This reviewer has never seen such a broad view of the potential value of and current state of affairs in this area or so frank a summary of its problems.

In the opening article, on the subject of "sound scholarship," Edward E. Colby contributes a fascinating discussion of what needs to be done "so that the world of sound will take its place alongside the world of print as a fully utilizable resource in formal and informal education." By his description of important archives and presentation of examples of scholarly uses of sound recordings, he makes a powerful case for full use of such resources. By discussion of such problems as preservation of materials, organization, documentation, and specialization to avoid duplication within the field, he shows the magnitude of the task which remains, despite the good start already made, before the materials are fully available for research.

Although rather difficult to read because of occasional thickets of terminology, Gordon Stevenson's consideration of discography, the procedures which in the field of recorded sound are analogous to those called "bibliography" in the field of print, is a valuable effort to organize a language vital to research in the newer field. In a rather angry tone Carlos B. Hagen explains the problems of archivists in relation to librarians and scholars so book-oriented that they cannot conceive of value (other than entertainment) in recordings. This reviewer has been fortunate to find among both groups increasing acceptance and at least moral support for the value of sound-collections, unfortunately during a period when desperately needed financial support is so difficult to obtain for any worthy purpose. In the rest of the issue Donald L. Leavitt gives a concise history and description of "Recorded Sound in the Library of Congress"; Norman Hoyle provides an interesting discussion of the origins, nature, and unique sorts of usefulness of oral history projects; Walter L. Welch offers his views about the accuracy of various methods of recording, the means of preservation of the different types of recordings, and the ways in which these recordings can be reproduced; Donald C. Robbins describes most of the bibliographic tools which deal with in-print commercially produced recorded material; and Abe A. Goldman offers advice to archivists on relevant aspects of the copyright laws.

As Stevenson says in his excellent introduction, there still exists "a serious lack of agreement as to the social and cultural value of historical and research collections of recorded sound." This set of articles explains many of the reasons for this problem and forcefully illustrates that there is great scholarly value in such collections.—Richard Warren, Jr., The Yale Collection of Historical Sound Recordings, Yale University Library, New Haven, Connecticut.

Christ, John M. Concepts and Subject Headings: Their Relation in Information Retrieval and Library

Volume 17, Number 3, Summer 1973

It is well known that the subject approach to information in libraries is something less than systematic. No comprehensive code for subject work exists, and little advance has been made in this area of library science since Cutter. This serious absence of guiding principles together with the ever increasing complexity of knowledge and the specialized demands of information seekers has led to a marked dissatisfaction with the quality of subject retrieval possible through library catalogs. Recent efforts directed toward the improvement of this situation have resulted in research into both general and special areas of subject analysis.

Concepts and Subject Headings is a study of subject approach in the social sciences. The aim of this study is to discover "what congruence, if any, exists between the terminology of social science and the subject headings used by libraries to catalog the literature of social science." More specifically, it is a comparison of concepts used in selected information sources in the social sciences with the headings contained in Subject Headings Used in the Dictionary Catalogs of the Library of Congress (LCSH), 7th edition. In making his comparisons, the author considers his data from three points of view.

Term-for-term matching of concepts and subject headings receives the greatest emphasis, with the matching process being applied to three different kinds of data. The first comparison is between the main headings in the index to the International Encyclopedia of the Social Sciences and the subject headings used by libraries to catalog the literature of social science." More specifically, it is a comparison of concepts used in selected information sources in the social sciences with the headings contained in Subject Headings Used in the Dictionary Catalogs of the Library of Congress (LCSH), 7th edition. In making his comparisons, the author considers his data from three points of view.

Another aspect of the study is an attempt to determine how well subject headings reflect the variety and meaning of terms within the framework of the social sciences. The subheadings which appear under main topics in the index of the Encyclopedia are compared with the list of synonyms and related subject headings listed as references under the appropriate headings in LCSH. Statistically, the author proves that the user making a subject search receives far more help from the index than he does from the library catalog. However, it should be pointed out that the problem is more complex than is indicated, especially since the tools being used for comparison differ greatly in their origin and function and in the level of specificity for which they have been designed.

Finally, subject headings assigned
by the Library of Congress to books included in the bibliographies of selected topics from the *International Encyclopedia of the Social Sciences* are examined to see how closely they match the topics under which the books are listed. Very little agreement was found, but there are other variables involved. Studies have shown that consistency in choice of subject headings, even among subject specialists, is frequently low, so that indexer performance is an important factor. Also, if subject headings are not consistent with the topic it may be that the content of the book and the topic do not coincide. While it is reasonable to assume that the works in a bibliography will be related to the topic on which they are considered to be authoritative, they may be broader or narrower in scope or only peripherally related to the topic. For an accurate picture of the situation an answer is needed to the question “Do the subject headings used in the study describe the content of the book?”

Although this publication may interest librarians working with the social sciences, it has serious shortcomings in the choice of data and in the research methodologies used. The wisdom of a comparison between a general subject heading list and an index to an encyclopedia is open to question. These two devices are designed to retrieve information at different levels of specificity and are intended for different kinds of users. Even though the author is only interested in identifying general trends, the reliability of the conclusions must be challenged in several instances. Some factors which would have affected the study have been overlooked, and there are numerous errors in tabulations of the data and interpretation in the body of the text. More serious is evidence that there is some misunderstanding of the structure and function of LCSH and a definite confusion in the distinction between “see” and “see also” references.

The author’s overall conclusion that there is a serious gap between the terminology of the social scientist and the library catalog is probably true. Indeed, more thorough research might well produce the same results.

—Nancy J. Williamson, Faculty of Library Science, University of Toronto.


*Cataloguing Research in India and Conflict of Authorship: Corporate Body vs. Corporate Body* are two short monographs which have been extracted from *Library Science with a Slant to Documentation*, a serial published jointly by the Sarada Ranganathan Endowment for Library Science Training Centre and the Documentation Research and Training Centre. They appeared in volumes 6 (1969) and 7 (1970), respectively.

Bhattacharyya begins by discussing briefly the history of cataloging mentioning such giants as Panizzi, Jewett, Cutter and their contributions to library science. According to the author, the works of these early giants were pragmatic and therefore limited because they were not based on fundamental laws. In 1928, Ranganathan intuited the five fundamental laws of library science: *Books are for use, Every reader his book, Every book its reader, Save the time of the reader, A library is a growing organism; a priori research in library science was born. India employs both a priori and*
pragmatic research, a combination formulated to obtain the best possible results.


The second pamphlet deals with the difficult topic of "corporate body vs. corporate body." The authors contend that an adequate definition of the term "corporate author" will resolve many of the conflicts which face catalogers today. The pamphlet is divided into sections. Each part deals with comparative, critical analysis of cataloging rules involving the following kinds of corporate bodies: Government, Near Sovereign Body, Quasi Government, Institution, and Conference.

The authors point out that many of the rules for choice of headings for corporate entries are not specifically stated but must be determined or "distilled" from implied rules which they called "distilled definitions."

In Section E on Institution, the authors present an interesting discussion of "Institution vs. Institutional Organ Conference." It is stated that all of the cataloging codes had resolved the conflict except the *Anglo-American Cataloging Rules (AACR)*. "There appears to be no Rule in AACR (1967) which is specifically turned on the conference confined to the members of its Organizing Body. . . . The definition distilled out of Rule 87 to resolve the conflict under consideration violates the definition of the term 'Corporate Author.'"

*AACR* (p.11) defines a corporate body as "... any organization or group of persons that is identified by a name and that acts or may act as an entity. Corporate bodies cover a broad range of categories of which the following are typical: associations, institutions, business firms, non-profit enterprises, governments, specific agencies of government, conferences, and expeditions." AACR Rule 87 states, "Enter a conference . . . under its name. . . ." Since it seems the conflict does not exist within *AACR*, one wonders what definition is in conflict?

Both publications are indexed. The titles of the rules are abbreviated and are followed by dates of publication. Explanations of abbreviations are given in the first section of each work. The subsections are numbered and I found this to be rather confusing and distracting. The pamphlets will probably interest persons doing research in comparative cataloging.—*Geraldine O. Matthews, Student, School of Library Science, Case Western Reserve University, Cleveland, Ohio.*


Intended as an aid for the inexperienced librarian, *Serials: Acquisition & Maintenance* is primarily descriptive and explanatory. Content emphasis is directed to its use as an initial source of information; as such, the work fills an important gap in serials literature. It offers a balance between the local handbook of practice and the in-depth presentation offered by Osborn's *Serial Publications*. Brown's experience in the extensive reorganization and supervision of serials work at Louisiana State University provides an impressive background for her approach.

Throughout, Brown rightly focuses discussions of routines and de-
cisions on the central serials record. That its integrity is her chief concern is illustrated by recommendations for careful planning, constant review, and, above all, simplicity of file and routine. The volume is valuable for the sample records included with careful discussion of their use. The suggested decision flow patterns help orient the new librarian to the necessary participation of other departments in serials functions. Brown adheres to no rigid methodology; but instead, she advocates the need to adapt or improvise as local needs require.

Two sections of the book are particularly helpful. One specifies both necessary and supplemental tools for serials work grouped by the type of information supplied. The other section provides brief descriptions of the major serial acquisitions and control programs (e.g., PL 480 and the National Serials Data Program). The ramifications of such plans in decision making are great and for this reason should be familiar to even the most inexperienced librarian.

There are some disturbing factors about the book. The index is hopelessly clogged with chapter subheadings. Thus, there are entries for “Most important point in the Serial Record” and “Keeping one’s ear to the ground.” And the bibliography is useless since it is arranged alphabetically rather than topically and contains no annotations.

It is most regrettable, too, that serials selection is accorded only brief attention. The rising cost of subscriptions, the increasingly proportionate place that serials assume in the total acquisitions budget, and the associated costs of binding and storage demand that a thoughtful approach to collection building be undertaken. Brown does not suggest the use of review tools (Katz is nowhere mentioned), nor does she specifically discuss the need for resource allocation.

Finally, Brown’s language is, at times, incomprehensible. Some sentences require repeated reading or a rearrangement of punctuation to make sense. While this is a serious fault it will detract only sometimes from the extensive use this book deserves.—Nancy J. Buckeye, University of Vermont, Burlington, Vermont.


This book describes an in-depth experimental study of a retrieval classification method that is document specific rather than knowledge specific. The author states that it is a moot point among linguists whether “really well-defined semantic classes, that is classes based on a single clear-cut meaning relation, can be derived from distributional information of any kind.” (p.17) In attempting to develop classification of a distributional type, she proceeds on the assumption that words are automatically in some form of relationship by being together in a document: a class of words is a class by being in a document text, not through any intrinsic relationship between the words themselves. The type of classification looked for is a weak one, a lattice of overlapping classes. “A classification of this kind is clearly unlike a hierarchical one; it also differs from some non-hierarchical classifications in not being exclusive; and it differs from some other multiple classifications in being based on single key objects.” (p. 20) The classification method is set-based and depends on a balance between internal and external connections of the set.

Four types of internal connections were developed in the course of experimentation: strings, stars, cliques,
Classification was a two-stage process using a similarity matrix and then identifying groups of similar items. Difficulties were caused by frequently occurring terms. When "all connections for the most frequently occurring terms" were deleted (but treated as unit classes and not groups), retrieval performance improved, to the surprise of the experimenters. One refreshing feature of this monograph is the number of surprises the experiments produced, and the interesting questions raised, partly as a consequence of unexpected results.

The test collection was a set of 200 documents on aerodynamics from Cranfield II research. The various tests applied to these documents are described in detail, and 51 graphs illustrating the results are given, in addition to numerous tables. The experiments showed no striking differences between the automatic classifications by strings, stars, cliques or clumps, but only that these were better than "less well-connected or diffuse classes." (p.203) A restricted vocabulary (eliminating high frequency terms) was necessary for satisfactory results. Retrieval performance was improved by substituting keyword groups for keywords; simple substitution with matching was effective. Either weighted or unweighted similarity definitions were satisfactory, no major difficulty being encountered by lack of weighting.

Discussion of the rationale of the experiments and of the experiments themselves brought interesting questions. For example, "... what is it that makes a document relevant to a question although they do not coincide verbally, where a document that is verbally closer to it is not relevant to the request?" (p.146) Sparck Jones notes that document descriptions and indexing are poor and must be improved greatly to achieve retrieval good enough to avoid this quandry. "How much, therefore," she asks, "can we hope to get around it by using classification, given that this classification must be based on just these defective term descriptions?" (p.147) The reader is reminded that "classification" here means classes derived from words in documents. One answer to this question is suggested by the McAllister dissertation: we do not know yet what happens in the mind of a person who creates an index to a document, but it is unmachine-like (non-automatic) and has a human factor which makes a perceptible difference in the resultant index.*

Further interesting Sparck Jones questions are: "... if the restricted vocabulary performance is better, not only than that of full vocabulary, but than that of the complete set of terms, why is it better?" (p.210) Why do good classifications "give effectively the same performance when there are obvious differences between them?" (p.230) "Though there is considerable overlap between class-mate sets (if a occurs in three sets: abc, adef, agh, the terms b, c, d, e, f, g, h are class-mates of a) for the different classifications, there are still some differences. Why, then, do these not affect performance more?" (p.138) "... [In general, if classifications work better than terms, it must follow that substitution is helpful: the question of interest is how helpful can we expect them to be?" (p.234) Earlier she remarks that substitution cannot occur without limit because ultimately a point would be reached.

where initial descriptions would be modified and searches turned into something quite different than that intended. Presumably these questions are not connected with the small size of the experimental sample or its homogeneity, though one would like to see the same experimentation carried out with larger and less homogeneous material just to be sure.

Sparck Jones concludes that it is necessary to be interested in much "tighter" classes than originally thought: "We have found that we must have stronger connections between individuals, but that we can permit an irregular pattern, not only of explicit connections used in class formation, but of implicit ones." (p. 236) The examples of classes given do not look like semantic classes. That is, in most cases one cannot look at them and tell what the document is about. The initial assumption was that they did not have to be meaningful; they only had to point to the right document.

So the experiments showed that keyword classification by various automatic means was a possibility for retrieval purposes. Sparck Jones is cautious in recommending this usage on a large scale, however, pointing out that large collections of documents bring problems not found in small homogeneous ones such as she used. She also points out that as yet "the exhaustive tests and comparisons which are required to demonstrate that an automatically obtained keyword classification is (a) of some value, i.e., is better than unclassified terms, and (b) works better than any manually-constructed ones which themselves work well, have still not been carried out." (p. 238) It is a pleasure to read such an interesting monograph by a thoughtful pioneer who recognizes that the whole subject is still very much in its infancy. The book is marred by being printed in exceedingly fine type, which probably will preclude its getting the attention it deserves. One can understand why all the graphs and tables had to be included, but the argument throughout the text is much more intriguing.—Phyllis A. Richmond, School of Library Science, Case Western Reserve University, Cleveland, Ohio.
The following abstracts are based on those prepared by the Clearinghouse for Library and Information Sciences of the Educational Resources Information Center (ERIC/CLIS).

Documents with an ED number are available in the format specified—microfiche (MF) or hard copy (HC)—from:

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Cataloging and Technical Services Round Table (Indianapolis, Sept. 29–30, 1971). 1971. 29p. ED 072 804. MF $0.65, HC $3.29.
Institution: Indiana Library Association.

Daniel Melcher discusses acquisitions as they relate to user service. The text of a skit depicting interaction between users, librarians, and the card catalog is presented. Also included are the questions and answers from a panel forum of library users. Edward N. Howard summarizes the entire program in the form of a reaction statement from a fictitious library patron-observer.

Institution: New Mexico University, Albuquerque. Zimmerman Library.

This is a report of a questionnaire answered by limited-budget libraries on their experiences with approval plans. In general it was apparent that all acquisitions librarians have to abide by the limitations of their institutions and that they are subject to control by the faculty. Many were concerned with the tie-in with one dealer, and they wished more jobbers would participate in approval plans. As a result of the survey and other factors, it was decided to set up a plan to cover all the areas of the University of New Mexico’s curriculum. Preparations to implement the approval plan were completed and the plan was put into operation. The plan which has been in operation for seven months appears to be effective.

Institution: Stanford University, California.

BALLOTS (Bibliographic Automation of Large Library Operations using a Time-sharing System) is an on-line interactive library automation system that supports the acquisition and cataloging functions of the Stanford University libraries. BALLOTS is being implemented in a series of eleven modules. This paper describes the first module, BALLOTS-MARC. This module supports the production of purchase orders, catalog card sets, spine labels, and several types of file slips and management reports. An on-line MARC file stored on disk is updated from the weekly Library of Congress MARC tapes. Several indexes are maintained in the file in order to support extensive

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on-line interactive file searching. One way of describing BALLOTS is to explain how
the system looks to the user and how it is used in normal day-to-day library oper-
ations. A typical book cycle is traced in the examples that follow.

Holt, Raymond M. Periodicals for the Asking: A Plan for a Periodicals Net-
work; A Survey Report of Five California Counties Made for the 49-99 Co-
operative Library System. May 1971. 92p. ED 061 960. MF $0.65, HC $3.29.
Institution: Holt (Raymond M.) and Associates, Del Mar, Calif.

In an attempt to improve access to periodicals, the serial holdings of public,
academic, and special libraries in a five-county area surrounding Stockton, California
were interfiled and studied. Policies and procedures concerning periodical selection,
processing, use, and retention were identified through a questionnaire. The study
revealed that the combined periodical resources of the area are much richer than
those of any one library or group of libraries. As a result, development of a co-
operative periodicals network is proposed. The organization, technical processes, and
finances involved in such a network are discussed.

Information on the MARC System. 2d ed. 1972. 34p. ED 067 119. MF $0.65, HC
$3.29.

This publication contains a brief description of the MARC communications for-
mat, a summary of how machine-readable records are created, information about the
MARC Distribution Service, and a selected bibliography of publications concerning
MARC, written by either Library of Congress staff members or others. In addition,
a report on automation in technical processing at the Library summarizes the
principal activities of the MARC Development Office.

Irvine, Ruth. MARC for Cataloguers: An Explanation of Its Use. 1972. 43p. HC
(Southampton University Library, Southampton S09 5NH, Eng.).
Institution: Southampton University (England) Library.

A seminar on practical MARC cataloging was held at Southhampton University
library in April 1972. MARC enables the catalog data for any given work to be read
and manipulated by the computer, which means that each record is broken down
into its component parts, and each is given a symbol (a tag) which the machine is
programmed to recognize when action is required on it. In MARC, the breakdown
of each record and the tagging structure is as detailed as is practical. This is to
give the computer as much flexibility as possible in handling the data. This text
was prepared for the use of the participants in the working seminar, and is being
made available with the intent that it will aid catalogers and library school students
in gaining a brief introduction to the MARC system.

Klein, Ann S., and Passiakos, Margaret. Journal Control System by Batch Proc-
MF $0.95, HC $3.00. (National Technical Information Service, Springfield,
VA 22151).
Institution: Oak Ridge National Laboratory, Tennessee.

The Oak Ridge National Laboratory (ORNL) integrated computer programs
for journal control have been extensively revised so that all journal ordering for
ORNL, Y-12, and ORGDP is handled through this system. This series of programs
provide: (1) management information in the form of cost, subscriber, and title
statistics; (2) seven copy purchase requisitions; and (3) claim letters to vendors

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relating to missing issues. In addition, computer check-in, notification of binding, and recording of journal arrival is provided for the Central Research Library. This report is divided into four sections. Section 1 describes the title and vendor backup files. Section 2 relates to the control of ordering, statistics, claiming, and preparation of purchase orders. Section 3 discusses the checking in, binding, listing of arrivals, and handling of subscription stoppages. Section 4 is concerned with programs which provide a union list and authority file of all journals in the Knoxville-Oak Ridge area. The Appendix contains flow charts of the programs in the system.


Progress is reported on the development of a partial syntactic analysis technique for indexing text. Although over 500,000 words of text have been indexed, this report is limited to the analysis of results at the 115,000 word level. There is the expectation that the error rate of commission, the selection of grammatically incorrect word sequences, can be held to the 2 percent level. Dictionary growth is reasonable. Computer processing speeds are good. Original and revised indexing subroutines are provided. Appendixes provide samples of good index terms for each acceptable format in the format dictionary as well as samples of incorrect word sequences.


Institution: Oregon State University, Corvallis.

The purpose of this report is to define a system by which computerized data bases may be cataloged for easy reference and availability. Emphasis was placed on identification of what information should be included in or excluded from such a catalog. The objective of the proposed cataloging system is to provide the potential user with information which would help him decide whether or not he would want to use a particular data base.


Institution: Illinois University, Urbana. Graduate School of Library Science.

That so many notions and principles set forth by Panizzi remain in evidence today proves his great contribution to present day cataloging. The comparisons made of the two sets of rules point out many contrasts and similarities. But even more significant is that, while reading the comparisons, one is constantly reminded of the importance of having good guidelines to follow in describing and recording the materials for a catalog. The catalog is, in reality, “the key to the library’s collection,” because it is the only efficient means of access to the materials. Any catalog compiled according to a code that does not permit or provide for appropriate entries under titles, or under names (or forms of names) of persons or corporate bodies under which some catalog user might reasonably look, is not fulfilling its role as “the key to the library’s collection” as adequately as it should. Therefore, it can be said that the code of cataloging rules used in compiling the records which constitute a catalog strongly influences a library’s effectiveness in assisting the user to determine the availability of desired materials and their location.

Morse, Philip M. Optimal Linear Ordering of Information Items. June 1971. 33p. AD 731 770. MF $0.95, HC $3.00 (National Technical Information Services, Springfield, VA 22151).

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Efficient search of items in a store of information, such as books in a library, abstracts of articles, information in a computer data bank or the like, requires that the items most closely connected in content be close together, in order that a person looking for some particular information may concentrate his search on as small a part of the store as possible. The degree of connectedness between two items, \( I \) and \( J \), can be expressed in terms of a correlation index \( N_{ij} \). Methods of estimating these indexes are discussed. Once the correlation indexes are known for each pair of items in the store, it is possible to assign a position \( X_i \) for each item \( I \), along a linear classification scale, such that the larger the \( N_{ij} \) between items \( I \) and \( J \) the closer the two items are on the scale. Such a scale would indicate the optimal ordering of books on library shelves or of items in any other data collection. It also would provide means for assigning optimal subject descriptors for a computer-based information store. A procedure is described whereby the values of the \( X_i \) may be determined in terms of the \( N_{ij} \).


The National Commission on Libraries and Information Science has been concerned in its initial year with every type of library and with all types of information resources and services. This first annual report summarizes the year's activities under the following headings: meetings and committees, other agencies, regional hearings, working philosophy, major goals, organization of library service, information needs of users, financing of libraries, adequacies and deficiencies of present libraries and information systems, applications of new technology, and improved manpower. Contained in the appendices are: Public Law 91-345 which established the commission, list of members, committees, list of witnesses at commission hearings, contracts awarded, and the fiscal statement. (The commission hearings and testimony are available as ED 068 143 through ED 068 145.)


Institution: Ohio College Library Center, Columbus.

The fifth annual report of the Ohio College Library Center discusses the implementation, operation, and enhancement of the on-line union catalog and shared cataloging system. The previous four annual reports are available as ED 059 730.
Definitive New Reference!

Biochemical Society Symposia: Number 36
NEUROTRANSMITTERS AND METABOLIC REGULATION
Edited by R. M. S. Smellie

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