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DOC-FINDER.

(Non-conventional methods in document retrieval. 3).
(Development of library science. 10).

S R RANGANATHAN, *National Research Professor in Library Science*, and *Honorary Professor, DRTC, Bangalore 3*.

[Shows the importance of using electronic engineering in documentation. Gives an idea of the kind of depth classification needed in documentation and the enormous number of entries to be stored in the documentation list. Indicates the qualities of a conventional documentation list (Classified Catalogue) which should be simulated by the Doc-Finder. Chalks out a scheme for the comparative study of the time and cost involved in the two systems. Further, suggests the need for studying the conditions of viability of the use of Doc-Finder. Finally, gives the plan of the proposed series of papers published in this special issue on "Doc-Finder" and to be published later in the same series].

1 Documentalist and Electronic Engineer

11 DOCUMENTALIST

Documentation consists of documentation work and documentation service. Documentation work is the preparation of a list of documents with emphasis on micro documents—that is, articles in periodicals and parts of books—and even among micro documents with emphasis on nascent ones. Such documents do not usually have an independent physical existence. They occur within a macro document which is its host document. Documentation service is reference service with emphasis on nascent micro documents and specialist readers. Documentalist is the name given to a librarian doing documentation work and documentation service. Thus, he is a librarian specialising in a particular kind of library work.

12 PARTNERSHIP BETWEEN DOCUMENTALIST AND ELECTRONIC ENGINEER

Documentation and Electronics came into wide use about the same time. Documentation is concerned with service in the intellectual plane. Electronics is concerned with service in the physical plane. Documentation aims to save the time of the consumer—that is, reader; so also does electronics. Documentation can serve electronics; electronics too can serve documentation. Electronic engineer should accept the service of documentalist; this will be to his advantage. Documentalist too should accept the service of electronic engineer; this will be to his advantage. The documentalists should adapt their techniques so as to facilitate the work of the electronic engineers seeking to help them; for this purpose, the electronic engineer should tell the documentalist about what his own limitations are. Similarly, the electronic engineers should adapt their machinery to serve the needs of the documentalists; for this purpose, the documentalist should tell the electronic engineer about the purpose to be served by his own work. Thus, the documentalist and the electronic engineer should become equal partners in serving the readers.

13 AIM OF THE PAPERS IN THIS SPECIAL ISSUE

The aim of the papers in this special issue initiated by this paper is to explore the area in which the partnership between the Documentalist and Electronic Engineer has to work.

2 Library Service and its Extension

21 LIBRARY SERVICE TO SCHOLARS

Till late in the nineteenth century library service was largely confined to scholars. It was severely so till the beginning of the nineteenth century. In that early period, literates were very few; and scholars were much fewer. Further, the annual production of books in a country was very small; and the total number of books available in a library was also small. Only scholars sought the use of books and resorted to libraries. Each scholar knew the names of the authors in his field. He could, therefore, choose the books himself and also help himself in every other way. The arrangement of books alphabetically by the names of authors proved sufficient. The catalogue too could well be an alphabetical catalogue by names of authors and perhaps some titles. It was one of the scholars that was usually in-charge of a library. Books were often catalogued by such a scholar-librarian. He needed only clerical assistance and somebody to maintain the books in order and keep a record of the books going out and coming back. In the early period, therefore, there was no library.

profession; no library techniques whatever were developed for improving library service. This tradition lingered long in some libraries, even after professional posts were created. For example, in 1947 the librarian's post fell vacant in the National Library at Calcutta. A few scholars approached me in Delhi for a note of recommendation. The grounds on which these scholars aspired to become the librarian of that Library are typified by the following statement of a scholar-applicant from Bengal: "I am interested in editing manuscripts and in the study of Indology. I have been specialising in this field for the last twenty years. I am now a professor. Teaching takes away much of my time. But I should like to devote all my time to research. If I can get the post of the Librarian of the National Library, it will be ideal for me." I told him, "Work in a library is not now as simple as you imagine. The librarian's hands will be quite full with administration of the library and service to readers. He can hardly find time for research. If at all he is researched minded, there will be much to do for him by way of research in library science itself. Even research in library science will have to be done only after working hours." The scholar-applicant was surprised to hear this.

22 LIBRARY SERVICE IN PUBLIC LIBRARY

By 1875, literacy began to expand in country after country. The ideal sought was universal literacy. Naturally, a large number of literate persons liked to use their literacy and read books. The annual production of books began to increase in each country; it has now gone beyond twenty thousand in many countries. Further, the total number of books in a library became very large; a few hundred-thousands. Country after country began also to provide free book service for all, through a country-wide public library system (10) established either by law or by executive order. The number of authors also increased enormously. But most of the literate readers were not scholars. Thus, a triangle of forces came into operation: Too many books, too many authors, and too many non-scholar readers not familiar with authors' names or titles of books. The formation of the library profession was a result of this triangular forces. Library associations were formed. And they helped the development of the necessary library techniques to enable the library profession to serve readers — the right reader with the right book at the right time.

23 BEGINNING OF CLASSIFICATION

The sheer number of books made it inevitable that the books should be arranged on the shelves by subjects in a classified way. No doubt, the collection of books was divided into a few

dozens of large subject groups and they were arranged alphabetically in each subject group, even long before the triangular forces came into operation. But thereafter broad subject groups proved inadequate. Melvil Dewey thought that at least a thousand subject groups would be necessary. Therefore, he designed his Decimal Classification. As time went on, he went on increasing the number of subjects in his schedule. Thus, Classification became a special technique of librarians.

24 BEGINNING OF CATALOGUE WITH SUBJECT HEADINGS

The old author and title catalogue gradually became inadequate. Readers remembered subjects better than names of authors and titles of books. Therefore, each book had to be given an entry under subject heading too. C A Cutter saw the need for this and he provided for it in his new Rules for Dictionary Catalogue. Thus, Cataloguing became a special technique of librarians.

25 OTHER TECHNIQUES

The first version of the Decimal Classification as well as the Rules for the Dictionary Catalogue were published simultaneously about 1876. At the same time, the library profession developed many other techniques to meet the demand of the triangular forces. Open access, Guides in Stack Room, Card Catalogue, Expeditious Issue System, and Three Card System for the Administration of Periodicals are a few of these techniques.

26 LIBRARY SERVICE IN ACADEMIC LIBRARIES

Till about the 1920's, academic libraries continued to be under the control of professors and teachers. There was only a dash of professional librarians admitted into them. But they had little freedom. They were usually under-studies of the professor-in-charge of the library. However, the impact of the achievements of the library profession in the public library system was slowly felt by the academic library system. Gradually, university and college libraries were transferred to the independent care of professional librarians. They found that the schemes for classification were not adequate in depth. Therefore, they began to improve them with great care. Colon Classification led the way to the design of faceted classification. So also they found that the usual catalogue entries were not adequate. In their service to teachers and students, they found it necessary to provide some cross reference entries to portions of books dealing with a specific subject. They framed rules for this. Of course, they were only very sparing in their cross reference entries. The greater usefulness of the classified catalogue with alphabetical index was realised.

The Classified Catalogue Code was therefore designed. It was published in 1934.

27 LAWS OF LIBRARY SCIENCE

Further, unlike the professional librarians in the public library system, most of the professional librarians in the academic library system were graduates. The academic librarians sensed the ever-expanding nature of the universe of subjects. They realised that a pragmatic improvement in a system of classification, a catalogue code, or any other library technique proving to be unsatisfactory. They had to be redone again and again. Being university trained men, they felt that it would be helpful and it would give more stable results if the pragmatic approach was blended with a *a priori* approach. *A priori* approach has to base itself on fundamental laws. The result was the Five Laws of Library Science formulated in 1928 and published in book form in 1931. These Laws ushered in the era of Library Science. Library Science lies in the area of social sciences. Therefore, these laws are normative principles and not hypotheses as it would be in the natural sciences. The Laws are:

- 1 Books are for Use
- 2 Every Reader His/Her Book
- 3 Every Book Its Reader
- 4 Save the Time of the Reader
- 5 Library is a Growing Organism

3 Library Service and its Intensification

31 EMERGENCE OF DOCUMENTATION

As early as 1896, two Belgians, Paul Otlet and Henri La Fontaine who were not librarians, saw the possibility of intensifying library service. They conceived the idea of bringing to the notice of readers—particularly, specialist readers—not only whole books and periodicals but also articles in a periodical, that is, micro documents. They actually prepared entries for about half a million micro documents (1). The Decimal Classification, then widely in use, was found to be too inadequate to classify these micro documents helpfully. They, therefore, made provision for synthesizing core Decimal Classification numbers and Time Isolate numbers, Space Isolate numbers, Common Isolate numbers representing approach documents, Special Analytical Isolate numbers, and two or more Class Numbers. Each of these isolate numbers was provided a distinctive connecting digit for synthesis. The connecting digit ":" (Colon) was used for synthesising two or more core Decimal Class Numbers. They named the resulting scheme "Universal Decimal Classification" This was in effect a nearly-faceted scheme. It was not fully faceted

as its core Decimal Class Number was a conglomerate of Basic Class Number and some Isolate numbers. This was the first step in documentation and in the depth classification needed for it. The immense potentiality of such intensification of literary service was not realised for a long number of years. It was first realised by the specialist readers themselves but not by the library profession. But without the background of training in literary science—particularly in classification and cataloguing—the specialists could not improve documentation.

32 REALISATION OF THE VALUE OF DOCUMENTATION

A full realisation of the value of documentation came only during World War II. For, unlike World War I, World War II was, so to speak, fought out in the industrial laboratories and research institutions instead of in trenches. The Documentation Wing of the Pentagon in Washington marks the high water mark of the realisation of the value of documentation.

33 NECESSITY OF DOCUMENTATION

Since 1945, an altogether different factor has been accelerating interest in documentation. That is population pressure. To meet the material needs—food, clothing, shelter, and transport—of the ever-increasing population, documentation has become a necessity to intensify the production of raw materials, the engineering and technological production of consumable commodities out of non-consumable raw materials, the methods of market survey and marketing, large-scale production, and management on colossal scales. All this meant intensification of research. Conservation of research potential of the humanity as a whole, without its dissipation by unwanted repetition in research, has been demanding intensification of documentation. Now the number of micro documents produced in a year exceeds two millions; the total number of worthwhile documents of the past and the present mounts up annually at the rate of about two millions; and the number of specialist readers to be served with them has reached a very high figure. The existing literary techniques, be it classification, cataloguing, or reference service, frequently fail.

34 RETHINKING BY THE LIBRARY PROFESSION

A considerable rethinking by the library profession has become a necessity. Since the dominant kind of documents to be served are micro documents, the profession has generalised the term 'book' used in the Laws of Library Science into the term 'document' which can denote either a macro document (book) or a micro document (article in a periodical).

35 SYSTEM FOR SERVING SPECIALIST READERS

It now wants a system for serving specialist readers of all subject-interest:

- 1 Nascent micro documents in accordance with Law 1;
- 2 Pin-pointedly in accordance with Law 2;
- 3 Exhaustively in accordance with Law 3;
- 4 Expeditiously in accordance with Law 4; in spite of,
- 5 Growth of documents at a tremendous rate, as envisaged by Law 5.

4 Intensification of Classification**41 DYNAMIC THEORY OF CLASSIFICATION**

The designers of UDC showed the need for the intensification of classification. But they could not go the whole hog as the time was not then ripe for it; nor were there at that time the necessary normative principles for the design of classification and construction of class numbers. Now it is fully realised that documentation cannot be as effective as it should be unless the scheme used for the necessary depth classification is a fully and freely faceted one. Such a scheme alone can produce class numbers representing co-extensively each of the facets in a subject and also the focus in each of the facets. In other words, the class number should satisfy the Canon of Co-extensiveness and that of Expressiveness. The theory of classification has now been made dynamic and capable of giving the guidelines necessary to intensify a scheme for classification continuously to any depth whatever. In the course of the last twenty years, the Colon Classification has been fitted, with the aid of this dynamic theory, for co-extensive and expressive depth classification. Naturally, the greater the depth of the subject, the greater will be the number of its facets and the longer will be its class number.

42 ALLERGY TO DEPTH CLASSIFICATION

But many in the profession are still clinging on to the impressions formed by the century-old, nearly-enumerative Decimal Classification and the half-a-century-old nearly-faceted Universal Decimal Classification. They, therefore, feel allergic about the freely-faceted analytico-synthetic Colon Classification giving co-extensive and expressive class number to any subject whatever be its depth. At the same time, they feel the inadequacy of the other schemes for classification in providing the depth classification necessary for documentation, they attribute the failure to the very idea of classification *qua* classification. They would, therefore, prefer to depend upon subject headings in the verbal plane rather than coextensive and expressive class numbers in the notational plane. However, a few progressive members of

the profession accept the possibility of deepening classification sufficiently to serve documentation to a greater extent. Even in them there is a touch of scepticism. For example, the following observations were made by one such progressive members of the library profession in the Panel Discussion of the Rutgers Seminar on Colon Classification held in November 1964. Referring to a part of my demonstration of coextensive and expressive Colon Number for 'Marine Diesel Engines', he observed, "We do not approach a library file and say, 'I want information about 'Linings in the combustion chamber of a diesel engine for ship' ... There will always be a ceiling on classification; although Dr Ranganathan has done a great deal to raise the ceiling a little higher than it was in Dewey's or Cutter's day. The ceiling will be low until we can solve the problem of the psychology of the user ... Only God can make a classification true to the needs of all readers at all times" (7).

43 DEMAND ON SPECIALIST READERS

On the other hand, specialist readers bemoan the absence of a scheme for classification giving coextensive and expressive class number of a subject whatever be its number of facets. Here is an example: An architect complains, "No classification in common use and no catalogue distribution service would readily supply the names (if any) of manufacturers producing a window [with six sub-facets]." (3). This remark is elaborately described in another Paper (to be published). According to the architect, there can be as many as 558 sub-facets within the Personality facet of a compound subject going with the Basic Subject Architecture. The Colon Classification has got the capacity to express all these sub-facets in a helpful way. Similarly, it has been found that a compound subject going with the Basic Subject Production Engineering (of Motor Vehicle) can present as many as 223 sub-facets within the Personality Facet. The Colon schedule for this has been worked out (5). Again, a compound subject going with Production Engineering (of Internal Combustion Engine) can present as many as 23 sub-facets within the Personality Facet. The Colon schedule for this also has been worked out (9). When many in the library profession are unaware of the existence of such depth schedules and do not use them, it is no wonder that the specialist readers complain about the absence of depth classification and feel aggrieved. But their complaint and grief indicate the demand of the specialists on documentalists.

44 INADEQUACY OF THE VERBAL PLANE

Can subject headings be produced in the verbal plane so as to be coextensive with deep subjects such as those illustrated

in Sec 43. If they can be, they will have necessarily to go through all the steps of the depth classification except that of translating each component of a multiple subject heading into a facet number (8). But subject headings will fail us for various reasons. We cannot find homonym-free, synonym-free terms to denote all the isolate ideas, even in one language. Again, the meaning of the isolate terms in a natural language will not be permanent. Further, different languages will provide different terms to denote one and the same isolate idea. All these difficulties cannot be got over until an internationally accepted glossary of isolate terms is produced so as to be used by any natural language whatever. When will this be realised? Not for generations, if at all it can be realised. Even if it be realised, the alphabetical arrangement of subject headings will scatter the subject chaotically. But to satisfy the Laws of Library Science, the subjects should be arranged in a helpful filiation sequence.

45 NEED FOR LANGUAGE OF ORDINAL NUMBERS

The observations in Sec 44 point to the need for naming a subject, in a relatively stable, homonym-free, synonym-free international language of ordinal numbers. In other words, a subject must be represented by a Class Number. Each facet number (including sub-facet numbers) in a Class Number will correspond to the respective components in the multiple subject headings in the natural language. Convenience of all concerned would make it necessary to use the same scheme for classification for books as well as articles. While the number of digits for an extremely deep subject may run to dozens, it should be small for books. At the same time, it is desirable that the average number of digits in all the Class Numbers taken together should be kept as low as possible. Further, the notational system should admit of interpolation and extrapolation at any point in any array or in any chain. These factors require that the number of primary digits used in the notational system should be large. As many as 80 primary digits may be necessary.

46 BI-PARTITE DOCUMENTATION LIST

The observations in Sec 45 indicate that a documentation list—that is, a catalogue of documents—being bi-partite. In the first part, each entry will carry the Class Number in its leading section. It will also give the maximum information about the documents listed. This is called the Classified Part. In this part, the entries stand arranged in a helpful filiation sequence of subjects. But, a reader can enter the documentation list only through the name of the subject in a natural language. Therefore, an Alphabetical Part becomes necessary. In the Classified

Part, there are feature heading cards giving the names of the subjects in Class Numbers followed by a translation of the Class Numbers in a natural language as decided by Chain Procedure. The totality of the feature headings will form the schedule of classification. It will be the reverse in the Alphabetical Part. First will come the name of the subject and then will follow its Class Number. The Chain Procedure for deriving subject index entries is fully worked out in Classified Catalogue Code (6), such that the component terms occur in a sequence the opposite of the one in feature headings.

5 System for Document Finding

We want a system for finding the needed documents. The conventional catalogue in two parts described in Sec 46 is one such system. The Doc-Finder is a possible second system. This series of papers is concerned with these two systems only. Doc-Finder has the capacity to deal with millions of entries and to print out the needed entries with great ease and speed. The scheme for classification used as the basis is of vital importance if we are to get the most efficient and fullest help from the Doc-Finder—absolutely free from noise and leakage. For the reasons given in Sec 31, as it is only nearly-faceted, and does not have the inner mechanism to march abreast of the universe of micro subjects, UDC cannot do this. On the other hand, the fully and freely faceted analytico-synthetic Colon Classification is capable of marching abreast of the universe of micro subjects for reasons given in Sec 41 and 43. It has got the inner mechanism to implement the findings made from time to time by the theory of classification. Therefore, Colon Classification has been made the basis in the DRTC experiments. The Doc-Finder must discharge all the functions of the conventional catalogue. Nor can it escape any of the essential items of work in the preparation and the storing of the entries. We shall enumerate some of them.

Note.—The term 'Doc-Finder' is preferred to the term 'Computer'. When electronic machinery was invented to do calculation, the term computer was improvised. In finding documents there is no calculation. Therefore, the term 'Computer' is not appropriate. Further, the efficiency of finding documents will become greater if the electronic machinery used is the special purpose Doc-Finder instead of the general purpose Computer.

51 PREPARATION AND STORAGE OF ENTRIES

We shall assume that the title of a document gives a reliable description of the subject. It is usually so in a micro document.

But the title will have ellipses implied in the words expressed in the title. As a first step, the ellipses should be filled up. Very often the name of the Basic Subject may have to be filled up in this way. Filling the ellipses is a matter of judgement. This cannot be left to Doc-Finder. The next step will be to eliminate all but the kernel ideas expressed in the title and produce the title in kernel terms. The Doc-Finder may be able to do this to some extent, but not fully. A further step will be to replace the kernel terms in the title by the accepted standard terms. This too may be possible for the Doc-Finder, but it cannot always be done exhaustively. This may cause some noises and leakages. The penultimate step will be to translate the title in standard terms into class number and add thereunder the details of the Main Entry. The Doc-Finder may be able to do this. The question is whether the use of a conventional schedule for classification does not have certain advantages which will be missed by the Doc-Finder. Doc-Finder should provide for at least 100 different printout characters. This is a possibility. For example, the MEDLARS uses 170 characters of a specially designed off-line computer-printer called 'GRACE' (4); and the Chemical Abstracts Service uses 120-character set on the modified IBM 1403 printer (2). Experience has shown the advantage of having digits with anteriorising value to provide the approach document to a subject immediately before the documents on the subject itself. In the Belgrade Meeting of the FID/CA in 1954, specialist readers including engineers, technologists, and medical men appreciated and supported the importance of this device. The Doc-Finder should provide for this. It should not be impossible. Lastly, the ordinal values of the digits used in the Doc-Finder should be the same as prescribed in Colon Classification.

52 FINDING OUT THE REQUIREMENTS OF THE SPECIALIST READER

A specialist reader is not always able to name his micro subjects fully—that is, each one of its facets and the precise isolate in each facet. The reference librarian has to help him in this. Browsing among the feature headings arranged in a helpful filiation sequence in the Classified Part of the conventional catalogue and lying within the short range of his subject interest is a great help—nay, a necessary help—in guiding the reader to locate the precise subject of his interest at the moment. Perhaps the Doc-Finder can also provide for this browsing and be of help to the reference librarian in guiding the reader to his precise subject.

53 PERUSAL OF THE MAIN ENTRY

In the conventional catalogue the perusal of the Main Entry is instantaneous and possible. In the Doc-Finder also this should be possible.

6 Comparison of Cost and Viability

This series of papers will eventually include papers making a comparison of the two systems in respect of time taken and the cost involved in each of the operation in the storage. for each of the steps in helping the specialist reader in formulating his exact requirement, and locating the exact documents and giving to the reader either the document itself or a reprograph of it. There will also be a comparative study of the overall cost — capital cost (including sinking fund), cost of repair and maintenance, and recurring working cost. Some of the papers in this series will also examine the conditions, for the viability of each of the two systems.

7 Vision of the Future

How long the viability conditions for the adoption of Doc-Finder will take to be fulfilled is an important item? Perhaps, it may not be in the near future for each specialist library to have a Doc-Finder or for all the libraries in a country or region of the world or the world as a whole, to get everything done by a single centre for Doc-Finder. But my imagination runs riot. I look forward to the day when we can manage with one world centre. Then, a specialist reader sitting in his study room or working in his laboratory can get instantaneous push — button documentation service from that world centre. This will be achieved by Electronics and Telecommunication including long distance dialogue, television, and teletyping.

8 Conspetus

81 INTEGRATED SYSTEM

The system of document finding using a computer in the experiments in DRTC is an integrated system. Features of its functioning are:

1 A Catalogue-on-Tape

An entry in this catalogue would consist of the Class Number for the input document and specification of host document. The Class Number will be synthesised by the computer on the basis of kernel terms fed in random sequence, but expressed in standard terms used in the schedule (See Papers Q and S).

2 Query of the reader will be facet analysed and kernel terms fed into the computer. (Paper S).

3 Computer synthesises the Class Number for the query. (Paper S).

4 Computer searches in the catalogue-on-tape on the basis of the Class Number of query. (Paper R).

5 Relevant entries are selected on the basis of a match of the Basic Class Number and Isolate Numbers of the Class Number of query and those in the catalogue-on-tape. (Paper R).

6 Computer translates the Basic Class Number and the Isolate Numbers in the Class Number of the documents selected into the terms in the natural language by a look-up of the built-in-schedule. This will give the Feature Headings. (Paper to be published later).

7 Computer formulates Class Index Entries on the basis of Chain Procedure (Similar to item 6). (Paper to be published later).

8 Computer prints out of the list of documents selected in the desired format and the entries arranged in the classified sequence (Paper R). If the number of entries selected is more than 50, the Class Index Entries for the selected subjects will also be automatically printed out as the alphabetical part of the documentation list. (Paper to be published later).

82 OTHER PAPERS IN THIS SERIES

It is proposed to include in this series papers on the following:

1 Description of the problem faced and the provisional solutions made for the adaptation of the CC notational system to the character code available in the computer model ICL 1903.

2 A historical account of the mechanised document finding for the period 1945 to 1968.

3 A comparative study of the two documentation systems — conventional documentation list and the Doc-Finder — in respect of saving the time of the reader, capital and recurring cost of the materials, and operations involved and the conditions of viability.

Bibliographical References

Note.— 1 The following is the list of documents used.

2 Column 1 gives the serial number of the documents included in it.

3 Column 2 gives the number of the section in the text, where the reference to the document occurs.

- 1 Sec 31 BRADFORD (S C). Documentation. 1950. Chap 8. P 96.

- 2 Sec 51 DAVENPORT (W C). CAS computer-based information services. (*Datamation*. 14, 3; 1968, March; 37).
- 3 Sec 43 HUTTON (G A). Product analysis by co-ordinate index. (*Aslib proc.* 20; 1968; 172).
- 4 Sec 51 NATIONAL LIBRARY OF MEDICINE (USA). Medlars story. 1963. P 54.
- 5 Sec 43 NEELAMEGHAN (A), GOPINATH (M A), and DENTON (P H). Motor vehicle production engineering: Depth classification: Demonstration. (*Lib sc.* 4; 1967; Paper H).
- 6 Sec 46 RANGANATHAN (S R). Classified catalogue code with additional rules for dictionary catalogue. Ed 5. 1964. Part K.
- 7 Sec 42 ——. Colon classification. 1965. (*Rutgers series on systems for the intellectual organisation of information.* 4). Indian edition. 1967. P 247-8.
- 8 Sec 44 ——. Subject heading and facet analysis. (*J doc.* 20; 1964; 109-19).
- 9 Sec 43 ——, NEELAMEGHAN (A), and GOPINATH (M A). Production engineering of internal combustion engine: Depth classification. (*Lib sc.* 2; 1965; Paper B).
- 10 Sec 22 ——, ——, and GUPTA (A K), *Ed.* Free book service for all: International survey. 1968.