

# Library Classification and Cataloguing Theory

DLIS103



**L** OVELY  
**P** ROFESSIONAL  
**U** NIVERSITY



# **LIBRARY CLASSIFICATION AND CATALOGUING THEORY**

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## SYLLABUS

### Library Classification and Cataloguing Theory

**Objectives:**

- To identify a book or a bit of information from a huge store of knowledge, a professional need to find out and make available the right book (information) of the right reader (seeker) at the right moment.
- To train the students to project the holdings of libraries according to accepted universal codes of cataloguing.

| Sr. No. | Description   |
|---------|---|
| 1.      | Concept of library classification: Definition, Need and Purpose. Theory of subjects; basic, compound and complex subjects. Notation: Need, Purpose and qualities. Five Fundamental categories.  |
| 2.      | Classification Schemes : Introduction to major schemes of classification: Colon Classification (CC), Dewey Decimal Classification (DDC), Universal Decimal Classification (UDC)   |
| 3.      | Classification Theory: Canons of Ranganathan, Development and trend in classification, role of computers  |
| 4.      | Concept of Call number: Class Number, Book Number, Collection Number  |
| 5.      | Concept of library catalogue: Definition, need, purpose and functions Forms and types of catalogue. Dictionary, Classified, Alphabetic-classified Catalogue; Card, Computerized and online (OPAC) Catalogues.   |
| 6.      | Filing of Entries: Arrangement of entries of Dictionary and Classified catalogue, Descriptive Cataloguing: Current trends in Standardization, description, and Exchange (ISBD, CCF, MARC)   |
| 7.      | Standard Codes of Cataloguing : AACR and CCC, Normative principles of Cataloguing: Canons of Cataloguing  |
| 8.      | Subject Cataloguing and Indexing: Principles of subject Cataloguing . Subject Headings Lists and their features (Sears List of Subject Headings and Library of Congress List of Subject Headings) Development and trends: Development and recent trends in Cataloguing. |

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# Unit 1: Concept of Library Classification

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## Objectives

After studying this unit, you will be able to:

- Elaborate the library classification
- Understand the definition, need and purpose of library classification
- State the concepts of compound subject of library classification
- Define the complex subject of library classification.

## Introduction

The Classification is the bed-rock of systematic library. It is the hyphen that joins and the buckle that fastens the reader and his document. The word classification comes from the Latin word classis. In the ancient Rome, the term classis was used to refer to a group of persons possessing certain qualities in common as well as belonging to the same class. Ordinarily classification is a process of grouping, ideas or objects on the basis of certain qualities which its members possess. To understand the meaning of classification let us study a few definitions of classification given by some specialists.

### 1.1 Library Classification

A library classification is a system of coding and organizing library materials (books, serials, audiovisual materials, computer files, maps, manuscripts, regalia) according to their subject and allocating a call number to that information resource. Similar to classification systems used in biology, bibliographic classification systems group entities together that are similar, typically arranged in a hierarchical tree structure. A different kind of classification system, called a faceted classification system, is also widely used which allows the assignment of multiple classifications to an object, enabling the classifications to be ordered in multiple ways.

Library classification forms part of the field of library and information science. It is a form of bibliographic classification (library classifications are used in library catalogs, while "bibliographic

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classification” also covers classification used in other kinds of bibliographic databases). It goes hand in hand with library (descriptive) cataloging under the rubric of cataloging and classification, sometimes grouped together as technical services. The library professional who engages in the process of cataloging and classifying library materials is called a cataloguer or catalog librarian. Library classification systems are one of the two tools used to facilitate subject access. The other consists of alphabetical indexing languages such as Thesauri and Subject Headings systems.

Library classification is a work consists of two steps. Firstly, the “about ness” of the material is ascertained. Next, a call number (essentially a book’s address) based on the classification system in use at the particular library will be assigned to the work using the notation of the system.

It is important to note that unlike subject heading or thesauri where multiple terms can be assigned to the same work, in library classification systems, each work can only be placed in one class. This is due to shelving purposes: A book can have only one physical place. However, in classified catalogues one may have main entries as well as added entries.



*Notes* Most classification systems like the Dewey Decimal Classification (DDC) and Library of Congress classification also add a cutter number to each work which adds a code for the author of the work.

## 1.2 Definitions

1. Margaret Mann says, Classification is the act of arranging things according to their likeness and unlikeness. She further says, It is a sorting or grouping of things.
2. According to Richardson, Classification is putting together like things.
3. Berwick Sayers defines library Classification as The arrangement of books on shelves or description of them, in a manner which is the most useful to those who read.
4. New Encyclopedias Britannica defines library classification as a system of arrangement adopted by a library to enable patrons to find its material quickly and easily.

From these definitions it becomes clear that the arrangement of documents in a systematic way is called classification. In library classification we deal with documents with the sole purpose of arranging them in the most helpful and permanent sequence. Library classification thus aims at providing formal access to documents.

## 1.3 Need and Purpose

Let us deliberate upon some points that elaborate the need and purpose of Library Classification.

- (i) **Helpful Sequence:** The basic purpose of any library classification should be to arrange the documents in a method most convenient to the users and to the library staff. The documents should be arranged in classes, and based on the mutual relations between them. This would bring together closely related classes. In other words, related documents would be grouped in close proximity, the basic idea being that like classes are brought together and unlike classes are separated.
- (ii) **Correct Replacement:** Documents after being taken out from shelves by the users or by the library staff should, after being used, be replaced in their proper places. It is essential that library classification should enable the correct replacement of documents, after these have been returned from use. This would require a mechanized arrangement, which has been discussed in the next section.
- (iii) **Mechanized Arrangement:** If it is decided that a particular arrangement is suitable then, ordinarily, it should not be changed. The sequence should be determined once for all, so that one does not have to re-determine the sequence of documents again when these are returned after being borrowed, or for the interpolation of new documents in their correct places. This is done by allocating notation, which expresses order. Thus, it becomes



possible to easily insert or reinsert the various documents in their correct places. This is how we are able to mechanize the arrangement.

- (iv) **Addition of New Documents:** A library would acquire new documents from time to time. Therefore, library classification should help in finding the most helpful place for each of these among the existing collection of the library. There are two possibilities in this regard. The new books may be on a subject already provided for in the scheme of library classification, or it may be on a newly emerging subject, which may not have been provided for in the existing scheme. In the second case, the scheme should have inbuilt qualities which may allow the fixing the position of the newly emerging subjects amidst another subject having literary warrant.
- (v) **Withdrawal of Documents from Stock:** In case, the need arises to withdraw a document from the stock for some reason, the library classification should facilitate such a withdrawal.

## Other Purposes

Library Classification should also be able to serve the following purposes:

- (a) Classification of pieces information: The classification should help us to classify even small pieces of information, *e.g.*, Articles of a journal, etc.
- (b) Classification of reference queries: The classification also helps the reference librarian to arrange the queries in a classified order, which makes their redressed quite fast and easy.
- (c) Classification of suggestions received from the users
- (d) Filing of non-book materials such as correspondences, photographs, films and so on.
- (e) Classification of statistics of various kinds, for instance the classification of statistics with regard to the issuance of books would reflect the pattern of demands on various subjects.
- (f) Class number the derivative of classification is needed in the preparation of catalogue. It assists the user of a catalogue to refer to the location of the documents on the shelf and also helps in arranging the catalogue cards in a classified sequence; and
- (g) Assist the library staff to prepare a subject wise list of documents for to cater to the demand of different departments associated with the library or for maintaining records of documents transferred to branch library or lending centre from the stock of the central library.

## 1.4 Compound Subject

A compound subject is a subject having a basic subject (basic facet) and one or more isolate ideas or concepts (isolate facet) as its components. For example, each of the following subject statement or title of a monograph indicates that the subject matter of the monograph is compound subject.

**Examples of compound subjects:** Mining of gold, Chemistry of gold, Biblical study of animals, Botanical study of flows, it men of cancer in Ayurvedic System of Medicine, represent compound subjects. Each Isolate facet/idea of compound subject is category.

According to Ranganathan, “if in a work or a document, one describes only part or portion of the personality of an entity or an entity set, or gives description of one or some attributes possessed by an entity or entities, and/or actions on it by or through other entities, in a particular space and time context, then the subject of the work is deemed to be of type compound subject.”

Ranganathan postulated that make up of a compound subject constitutes of one or more five mutually exclusive fundamental categories: Personality [P], Matter [MI or Property, Energy [E] or Action, Space [S] and Time (TI. This set of fundamental category for brevity denoted by in it irony PMEST. He also introduced an extended version of these in the form of levels and rounds of their manifestations.

## 1.5 Complex Subject

Complex Subject (CxS) is a subject formed by a combination of two or more subjects—basic or compound. (*e.g.*, bias, comparison, influence, etc.) Between two or more simple subjects or compound



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subjects, for example: Physics compared to Chemistry or Psychology for Doctors. According to Ranganathan, "if in document or a work deals with or contains description of interrelationship, comparison, etc. among two or more basic subjects or compound then such a subject of the work or document is deemed to be of type complex subject."

It is useful to begin with the definitions of Basic Subject (BS), Compound Subject (CdS), and Complex Subject (CxS) in order to get a clear notion of phase analysis.

- (a) A Basic Subject is a subject which is enumerated in the schedule of BS;
- (b) Cannot be expressed as the Compound Subject of any of the existing BS, *i.e.*, a subject without any isolate idea as a component;
- (c) It is evolved through one full cycle of the spiral of scientific method as propounded by Dr. S. R. Ranganathan. They also exhibit different modes of formation of subjects;
- (d) Calls for schedules of special personality, matter and energy isolates;
- (e) Has some specializations-academic and/or professional segmentation.

The indicators for this are:

- Existence of professional societies
- Degree course
- Periodical publications
- Whole books on the subject
- For example mathematics, economics, law.

## 1.6 Notation

- (a) **Introduction:** A notation is an ordered serial of symbols representing terms. If the names of subjects or of isolates in a natural language are arranged alphabetically, the resulting arrangement does not at all conform to the helpful sequence determined by the idea plane. In a library classification scheme, the terms are ordered into classes and their sub-divisions. The symbols comprising a notation, therefore, stand in the place of classes and their subdivisions, to mechanize the process of sorting and replacement.



*Notes* Notation is a system of symbols which is used to represent specific subjects.

Notation is one of the special features of library classification distinguishing it from knowledge classification. It is required to mechanize the arrangement of documents on the shelves and their entries in catalogue and other bibliographical tools.

- (b) **Definition:** Notation means shorthand signs or symbols used to represent terms or phrases. In library terminology 'notation' means the assigning of symbols to denote the classes. Dr. S.R. Ranganathan, defines notational system as "a system of ordinal numbers used to represent the classes in a scheme for classification".

Harrods's librarian's glossary defines notation as "the ordered series of symbols that stands for the ordered series of terms in the classification schedule". According to Palmer and Wells, notation is used to mechanize the process of sorting and replacement. In short, notation is a system of symbols; represent a ting a series of ordered terms in a classification scheme. It is used for mechanizing the process of sorting and replacement of documents.

## 1.7 Functions of Notation

The important function of notation is to show the classified sequence of subjects and maintaining the sequence. That is notation plays an important role in maintaining the order and hence it is called ordering. J. Mills enumerates the functions of notations are as follows:

- The vital function is to mechanically maintain the sequence of subjects, by giving each term a symbol possessing an agreed ordinal value. Whether it is the arrangement of books

on the shelves shelf order or arrangement of entries in a catalogue or a bibliography, notation plays an important role in maintaining the sequence. Hence, some views notation as an ordering device.

- The use of synthesis or number building, make, possible enormous economy in the construction and physical size of the schedule.
- Notation with its mnemonic qualities assist the librarians and the readers to remember the sequence of divisions within a class.
- It should assist the grinding of a library, *i.e.*, in the location of documents.
- It allows Mechanical reference to be made from any catalogue entry to the materials on the shelves.
- It makes the alphabetical subject's index possible. For example reference from a term in the Index such as Agriculture law would not convey to the user the exact location of the subjects. But a notation (class number) cited alongside the term., (*e.g.*, algebra 512) facilitates or helps the user to locate the subjects without any difficulty.
- It should reflect the sub-ordination and co-ordination of the subject symbolized. This is related to the quality of expressiveness of notations.

## Self Assessment

Fill in the blanks:

1. Ordinarily classification is process of grouping, ideas or ..... on the basis of certain qualities.
2. Library classification is a system of coding and ..... library materials.
3. Mining of gold, Chemistry of gold, Biblical study of animals, etc. are examples of ..... subjects.
4. .... is an ordered serial of symbols representing terms.

## 1.8 Qualities of Notation

To perform the above functions effectively and efficiently, the notation used in classification scheme should possess the following qualities.

- (a) **Complementary nature of Notation:** The nature of notation should be complementary, notation is not primary; the classificatory one should not be determined by the notation. The idea plane should determine it. Also the notation system should develop the capability to accommodate new classes. The life and death of classification depends on the notational system it uses.
- (b) **Universal usability:** Once the documents are classified and assigned class numbers, those class numbers become almost permanent. Also the class numbers are to be used by number of persons drawn from different background. Therefore, the symbols should be universally used.
- (c) **Block formation:** According to the physiology of eye and the psychology of memory, the optimum number of digits that can be comfortably picked up in one instalment is there and maximum six. This finding suggests that in the case of long class numbers, they should be divided into convenient blocks. The notation system should have the capacity to construct such class numbers.
- (d) **Avoid synonymous class numbers:** Synonymous class number means more than one class number denoting the same subject. Each subject should be represented by only one class number. The canon of synonym also demands this. If we assign same class numbers to more than one specific subject, then the documents of the same specific subject will be scattered over different places. The notational system should help to achieve synonym free class numbers.
- (e) **Avoid Homonymous class numbers:** Homonymous class number mean one class number denoting more than one specific subject. The class number of each specific subject should be

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unique. Class number already assigned to one specific subject should not be assigned to another subject again. The avoidance of homonymous class number is governed by the canon of homonyms.

- (f) **Brevity:** Brevity is a desirable quality as it aids the library staff in recording the number at various places and the user to remember it because of the growing complexity of subjects' treatment in documents notations nowadays tends to be longer. However, brevity is achieved to a certain extent by the judicious use of synthetic features in notations.
- (g) **Expressiveness:** The notation that expresses the structure of the scheme is known as expressive, hierarchical or structural. The expressiveness of the notation helps the user to find his way up in a systematic order in the structure of the scheme. In other words, notation performs an additional function of expressing sub-ordination and co-ordination of the subject's symbolised. However, an expressive notation ceases to be brief, as each step in division is expressed by an additional digit.
- (h) **Synthesis:** It has been suggested that a notation should possess the quality of synthesis. By synthesis is meant number building by taking components of the number from different part of the schedule. Both faceted and enumerative schemes synthesis components from different part into compound numbers. Synthesis, however, is more pronounced in faceted schemes.



*Task* Define some functions and qualities of notation.

## **1.9 Needs of Notation**

Notation is group of symbols or codes, which may be used to sort or locate concepts in a systematic order and to display how concepts have been structured and grouped. The Dewey Decimal Classification (DDC) is a very good example for notation. The DDC was developed by Melvil Dewey back in 1876 and it is world's most widely used library classification system, it attempts to organize all knowledge into ten main classes. Moreover, DDC's cleverness is in choosing decimals for its categories.

At an early stage, traditional library used faceted classification technique in categorizing books, papers and articles. In a faceted classification, subjects are divided into facets (aspects), and class numbers are created from the classifications (Wikipedia). Here is the example for faceted classification scheme:

**Manufacturer (first digit)**

- 1 = MasterFoods
- 2 = Heinz

**Type (second digit)**

- 1 = Tinned
- 2 = Condensed
- 3 = Powdered

**Size (third digit)**

- 1 = Cup a soup
- 2 = Bottle

**Flavor (fourth digit)**

- 1 = Tomato
- 2 = Minestrone
- 3 = Chicken

Therefore, from the above scheme, it can be seen that “MasterFoods condensed bottle tomato would be identified as 1221. Notation, then, can solve terminological problem and allow complex subjects to be represented by simpler coding

The terms used in classification of knowledge are to be translated into ordinal numbers, reveals the basic need of notation.

1. It is used to charging and discharging of documents.
2. It helps in the arrangements of documents on the shelves and the entries in the catalogue.
3. Notation mechanically maintains the sequence of subjects.
4. Notation is required to replace terms. It becomes a permanent symbol through which the terms of classification referred to.
5. It is a medium of and guide to the sequence of terms and fixes there relative position.
6. Alphabetical index is possible only through notation in a classification scheme.
7. It is written on various parts of documents and cards etc.
8. Effecting working of the catalogue is dependent on notation.
9. It figures among the guides used in a library.
10. It shows the sequence and subordination and coordination of classes.
11. It arranges entries in bibliographies and lists etc.
12. Notation facilitates the use of mnemonics.

### 1.10 Five Fundamental Categories

There are five Fundamental Categories as mentioned below.

- Time [T]
- Space [S]
- Energy [E]
- Matter [M]
- Personality [P]
- **Time.** The FC “Time” gives the least difficulty in identification. It is used in accordance with we commonly understand by the term. The usual Time isolates ideas such as millennium, century, decade, year and so on are its manifestations. Time isolates of another kind - such as, day and night, seasons such as summer and winter, and time with meteorological quality such as wet, dry, snowy, stormy, etc., are also taken as a manifestation of the FC “Time”. Some examples of titles presenting the Time element are given below:
  - Superconductivity in 1997
  - Winter sowing of wheat
  - Night journey by trains
  - Technological advances in the 20th century
  - Study of astronomy through the millennia.

In classification schemes like CC, UDC, etc., time schedules are listed separately as “Time Isolates” or “Chronological divisions” or “Featured Time Isolates” these common isolates occur in many subjects.

- **Space.** The FC “Space” comes next to “Time”. Normally, there is no difficulty in its identification and is represented in most schemes of classification. It is in accordance with what is commonly understood by the term. It includes geographical isolate ideas like continents, countries, states, districts, talus, cities, towns, villages; water formation and physiographical isolate ideas such as oceans and seas, deserts, prairie, rain-forest, plateau, mountain, rivers, canals; climate auto logical zones, tropics; areas occupied by population

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clusters, such as city, town, etc. All these are taken. To be a manifestation of the FC "Space":

**The following are examples of titles wherein Space Isolates are present.**

- Textile industry in Canada
- Mountain ranges of India
- Air-conditioning in the tropics
- Public library services in village
- Political conflicts relating to the Indian Ocean
- The Ganga cleaning project.

From the above, it is clear that the manifestation of FCs Time and Space can be easily understood and present no difficulty, generally, in their identification. In many cases, they can be identified from the titles of documents themselves.

- **Energy.** The manifestations of Energy are generally actions. They connote dynamic actions, such as, "doing", "changing", "evaluating", "determining", "forecasting", "analysis", etc. The action may be among and by all kinds of entities - inanimate, animate, conceptual, intellectual, and intuitive. The identification of the FC "Energy" is a little more difficult than that of "Time" or "Space". As matter of fact, the distinction between the manifestation of "Energy" isolate and "Matter Property" isolate poses problems mainly due to action-associated ideas. It has been found that two groups of attributes can be deemed to be manifestations of Matter (Property).

Isolate idea denoting a "static" attribute that is an action-associated attribute doing some characteristic function-general or specific-or a behaviour of an entity or a system. For example, "Function", "Physiology" and "Control". On this basis an isolate idea such as "Control" occurs as a facet in the subject "Management" because, it denotes a function of management. But, on the other hand, the isolate idea "Control" occurring as a facet in the subject of "Control of the diseases of the human body" is deemed to be a manifestation of Energy.



*Did u know?* "Control" is not a manifestation of Matter as it does not denote a function of anyone deemed to be a dynamic attribute of the core entity.

**The following are examples of Energy Isolates:**

- |                 |            |              |
|-----------------|------------|--------------|
| ➤ Preparation   | Focusing   | Separation   |
| ➤ Generation    | Reflection | Diagnosis    |
| ➤ Operating     | Scattering | Extraction   |
| ➤ Collecting    | Discussing | Distillation |
| ➤ Investigation | Warming    | Fusion       |

- **Matter.** The identification of the, FC "Matter", is more difficult than even "Energy", its manifestations are taken to be of two kinds - Matter-Material and Matter-Property. Viewed from the angle of Classification, Matter-Material ranges from chemical elements or raw materials from one end to finished products at the other end. There is a series of intermediate stages, connecting these two ends. For example, cotton is a raw material in the context of garment manufacture which is a finished product. Cotton fabric is at the intermediate stage. Cotton, however, is the ultimate crop product in the context of agriculture.

According to Ranganathan's school of thought, properties of things, persons, etc., are also deemed to be manifestations of Matter. Isolates such as variance, intensity, wave length, height, weight, volume, etc., are regarded as manifestations of Matter.

- Here, are some examples of titles displaying Matter Isolates.
- Density of solid
- Ink quality in printing

- Rubber quality in the manufacturing of mattresses
- Electric current resistance of superconductors.
- **Personality.** The Fundamental Category “Personality” presents the greatest difficulty in identification. It is too elusive. Therefore, Ranganathan had suggested adopting the Method of Residues for identifying Personality Isolate in the facet analysis of a Compound Subject. If a certain manifestation is easily determined not to be one of “Time”, “Space”, “Energy”, or “Matter”, it is deemed to be a manifestation of the FC “Personality”. This is so, as according to the Postulate of FCs, there are five and only five FCs. The application of this method of residues, however, is not infallible. But experience will lead to the establishment of reflex action in recognizing this FC manifesting in any isolate idea.

Nevertheless, later developments have suggested that it is helpful to recognize the manifestations of FC “Personality” first and then the manifestation of the other FCs. Experience in the design of depth schedules suggests that it is possible to identify a core concept in compound subjects going with a basic subject, such as “human mind” in psychology, “human body” in medicine, etc. Such a core concept is deemed to be a manifestation of FC “Personality”. The attributes of such a core concept can be several. A concept helps to determine the pattern of sequence of concepts. It helps in determining the relative degree of affinity of subjects going with different basic subjects. Greater weight age will have to be given in relation to the affinities among core concepts. The core concepts in their role as manifestations of the FC “Personality” act as leading parts of the system. Thus, to search for this leading part core concept should be the best method of recognizing the manifestation of the FC “Personality”.



*Notes* “Personality” is a central part of the whole subject, encompassing a range of related ideas.

Crops in agriculture, natural groups of plants in botany, animals in zoology, the Community of people in history, substances in chemistry, and social groups in sociology are some of the best examples to understand and comprehend the FC Personality.

## Self Assessment

State whether the following statements are true or false:

5. Synonymous class number means one class number denoting the same subject.
6. Notation is not used to charging and discharging of documents.
7. The FC “Time” gives the most difficulty in identification.

## 1.11 Summary

- A library classification is a system of coding and organizing library materials (books, serials, audiovisual materials, computer files, maps, manuscripts, regalia) according to their subject and allocating a call number to that information resource.
- A compound subject is a subject having a basic subject (basic facet) and one more isolate ideas or concepts (isolate facet) as its components.
- The nature of notation should be complementary, notation is not primary; the classificatory one should not be determined by the notation.

## 1.12 Keywords

*Alphabetical* : In the conventional order of the letters or symbols of an Alphabet.

*Audiovisual* : Both audible and visible.

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### 1.13 Review Questions

1. Write a brief note on Mechanized Arrangement.
2. What is the use of library classification?
3. What is meant by Withdrawal of Documents from Stock?
4. Write a paragraph on Library classification.
5. Write a paragraph on complex subject.
6. What are the needs and purposes of Library Classification?
7. Explain notation in library classification.

### **Answers : Self Assessment**

- |               |               |                      |
|---------------|---------------|----------------------|
| 1. objects    | 2. organizing | 3. Compound subjects |
| 4. A notation | 5. True       | 6. False             |
| 7. False      |               |                      |

### 1.14 Further Readings



*Books*

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't* The New York Times.

Chan, Lois Mai. *Cataloging and Classification: An Introduction*, second ed. New York: McGraw-Hill.

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences.

*The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



*Online links*

<http://xa.yimg.com/kq/groups/1392795/1714679826/name/>  
[www.wikipedia.com](http://www.wikipedia.com)



## Unit 2: Classification Schemes

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### Objectives

After studying this unit, you will be able to:

- Illustrate the introduction of major schemes of classification
- Understand the Dewey decimal classification (DDC)
- Discuss the universal decimal classification (UDC)
- Enumerate the applications of library classification schemes.

### Introduction

Books are placed on library shelves according to a classification scheme. A basic familiarity with those systems is vital for the student so they can find materials efficiently within the collection. Students of The Master's Seminary will encounter the two main systems: (1) The Library of Congress Classification System [LC], and (2) The Dewey Decimal System [Dewey]. The seminary utilizes the LC system while The Master's College utilizes the Dewey system.

The Dewey Decimal System is designed for the library user and browser. It has a logic flow, and once the ten basic categories are memorized, a student can generally find what they are looking for. The LC system is not designed with the library patron in mind. The LC system is really designed for a "closed stacks" library where patrons do not "browse" the collection but rather hand a page a request for a book, which would then retrieve it for the patron. As a result the LC system is rather notorious for strange and often logic defying "calls numbers."

### 2.1 Introduction to Major Schemes of Classification

1. **Introduction:** "Classification aims at demonstrating the way in which the human intellect transforms the chaos of sense impressions into a cosmos of concepts". Human beings seem to have an innate need to organize entities. This need to organize large amount of knowledge and information led to the development of classification schemes and other organizational tools. The ultimate aim of all classification work is to make sense out of chaos by grouping similar things together. Library classification has mainly four purposes like order the fields of knowledge in a systematic way, bring related items together in the most helpful sequence, provide orderly access to the shelves, and lastly to provide an exact location for an item on the shelf.

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Modern classification research must find order in even greater chaos, with many more intellects and a more complex cosmos, especially in the context of Internet.



Notes “A chaotic repository for the collective output of the world’s digital printing presses”. In this situation Library classification can create cohesion across diverse information stores by linking up conceptual contexts.

2. **Web organization:** Value and relevance of subject descriptor systems were being questioned during the early days of networked information services. The increasing number of automatic full indexing systems added to this kind of a criticism.

But as the amount of information stored on the Net was increasing, this conception got changed. “The more successful the Web, the greater the problem of information and resource discovery”. Two distinct ways of finding resources on the Internet emerged. One was the use of robot or spider-based search engines and the other approach started with producing ‘hot lists’, which would encourage users to browse the Web. This production of hierarchically arranged lists brought in the concept of Library classification schemes into the Web environment. Subject directories like Yahoo! and other quality-controlled subject gateways started to understand how a browsing structure-based on classification schemes would enhance searching the Net.

3. **Use of library classification schemes:** Classification is an intellectual activity requiring much time and energy and also an understanding of the scope and dimensions of the subject concerned. The advantages of using classification schemes to Internet services should be seen in connection with this point. A site that organizes information according to classification schemes may have the following advantages over others:
  - Enhanced browsing and navigation
  - More recall and precision through broadening and narrowing search terms
  - Contextual representation of search terms
  - Potentiality to permit multilingual access to a collection if required
  - The partitioning and manipulation of a database
  - Use of a common classification scheme could make search easier across databases.
  - Users may find it easier to browse, because of the familiarity with the classification scheme (which they might have been using in libraries).

### Criticism of Classification schemes

- The division of logically related materials.
  - Difficulty in assimilating new areas of interests: classification schemes, since they are usually updated through formal processes by organized bodies, often find it difficult to react to or accept new areas of studies quickly.
4. **Types of classification schemes:** There are several different types of classification schemes around, varying in scope, methodology and other characteristics. The division could be based on subject coverage, language, geography, use, or even the structure of the scheme. Actually, none of these categories are dichotomy; a classification scheme can fit into more than one category. In reality, the most frequently used types of classification schemes are:
    - (a) Universal Schemes
    - (b) National Schemes
    - (c) Subject specific schemes, most often international
    - (d) Homegrown systems and
    - (e) Local adaptations of all types

- (a) **Universal Schemes:** The term 'universal schemes' is used for schemes that are globally accepted, multilingual and multidisciplinary in nature. UDC, DDC, LC, etc. are the commonly used Universal schemes. The use of a universal, multidisciplinary classification scheme in an Internet context could result in the following advantages:
- They can cover all subject areas.
  - They are widely supported.
  - Continuous updating.
  - User familiarity.
  - Multilingual access to a collection.
  - Availability in machine-readable form. (since most of them are available in Machine readable forms).

### Universal classification schemes, however, are subject to several criticisms:

- **Rigid or false ontology:** The limitations of enumerated classification numbers had given birth to more flexible analytico-synthetic classification schemes like CC.
  - Delay in updating and adding new subject areas.
  - Further no classification scheme is able to fully represent the Universe of Knowledge.
- (b) **National Schemes:** Apart from the advantages and disadvantages of universal classification schemes the national schemes [like Nederland's Basisclassificatie (BC) and the Sveriges Allmänna Biblioteks förordning (SAB), etc.] Have some drawbacks as discussed below.
- Multilingual capability is not a primary concern with national schemes, apart from countries with multiple languages.
  - National schemes are likely to have a geographic bias.
- (c) **Specific Subject Schemes:** Specific subject schemes (like NLM, and Ei) are usually created for special collections or indexing and/or abstracting services in a scientific discipline. They do have the potential to provide a structure and terminology much closer to the discipline and can be more up-to-date, compared to universal schemes. They could be used mostly in subject-based services. These schemes also do have drawbacks like:
- They make co-operation between subject services from different subject areas more difficult.
  - People from other subject areas may find difficulties in using the scheme.
  - Some fringe topics, which could be found in subject specific resources, will not be adequately covered within these schemes.
- (d) **Home-Grown Schemes:** Some Web sites have tried to organize knowledge on the Internet by devising their own classification schemes like Yahoo. Home-grown schemes do have some theoretical advantages over library universal classification schemes:
- Relatively flexible and easy to change.
  - They can very quickly absorb new areas of interests.

### On the other hand, these schemes have a number of disadvantages like:

- Lack of consistency
- Unlikely to be well-known
- Not so economical.

## 2.2 Colon Classification (CC)

- (a) **Basic principles in colon classification:** The CC, like other scheme of classification, starts with a set of main classes which form the first order array, of classes. Each main class is

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divided into facets. All facets are regarded as manifestations of five fundamental categories. Before we proceed further let us see the meaning of the term introduced in the above paragraph. The terms are

- (i) main classes,
- (ii) array,
- (iii) facet, and
- (iv) fundamental categories.

- (i) **Main classes:** The main classes in CC are like disciplines in DDC and theoretical subjects in UDC. They are the traditional subjects, which you are well-acquainted with, like mathematics, physics, history, political science and soon. The number of main classes in CC is greater than those in DDC and UDC.
- (ii) **Array:** The dictionary meaning of array is 'a systematic arrangement of numbers or symbols in an orderly manner.' In CC also, it means the same as its dictionary meaning. The arrangement, however, is referred to as the preferred sequence. The numbers, in a classification refer to a division of a subject on the basis -of a, single characteristic. For example, in medicine, the organs of the human body form the array of organs.
- (iii) **Facet:** A facet is a characteristic by which 'a class is divided/grouped, each main class is divided into facets to signify the whole series of arrays-based on, a set of related characteristics of division. In the main class Literature, all enumerated languages, after which the national -literatures are known, constitute in DDC, the language facet of that class. In the same class, all literary forms (poetry, drama, fiction, etc.) constitute another facet. It may also be stated here that within a facet an individual member is called a focus. Hindi literature, for example, is a focus in the language facet of the class Literature
- (iv) **Fundamental categories:** To understand the basic principles of CC you have to first understand some of the rules framed by Ranganathan. He calls them postulates. One postulate states that there are five fundamental categories (FC), viz., personality [P], matter [M], energy [E], space [S], and time [T], PMEST for short.
- (b) **Time and Space:** These two have the usual meaning known to you., A century, a decade, a year, a month, a day, an hour are all indicators of time. If the subject is stated as Economic conditions of India in the 19th century, you can identify the time element in it. In some subjects, it may, not be stated explicitly, e.g., Economic conditions during the reign of Akbar. In this example, the fundamental category time is concealed, but still identifiable.
- (c) **Energy:** The next fundamental category is energy. Energy refers to some type of action. In the subject medicine, diagnosis or treatment falls under the facet energy. It shows action. In agriculture, ploughing is energy, in education teaching is energy, and in sociology relief work is energy, and so on.
- (d) **Matter:** There is a major change in the seventh edition of CC in the case of the fundamental category matter. Up to the sixth edition, Matter was present only in a few main classes. There is a complete reversal in the seventh edition. In certain cases, what was considered energy now forms part of the matter facet. Besides, the fundamental category matter has undergone some other changes. It is distinguished as Matter Property [MP], Matter Material [MMt] and Matter Method [MM].

It is only matter property, which has almost replaced the fundamental category energy. To explain matter with a concrete example, in the class medicine, anatomy, physiology and diseases are viewed as manifestations of matter property. Similarly, in the main class agriculture, soil, manure, propagation, etc., are treated as manifestations of matter property. In the main class fine arts, under the class drawing, pencil drawing, ink drawing, and cartoon drawing are considered as a manifestation of matter method. In technology, product, and in biology substance are manifestation of matter material. 'Hence, in a given subject, it is not difficult to recognize the fundamental categories of time, space, energy and matter.

- (e) **Postulates of Basic Facet:** After determining the different fundamental categories, they are to be attached to a basic class in the order of P M E S T. A basic facet in the traditional meaning

stands for a 16; class, e.g., philosophy, psychology, chemistry, literature, history, etc. In CC, originally there were nearly 30 such main classes. This number rose to 47 in the sixth edition. You can find that many of the main classes listed in the seventh edition are not exactly basic subjects as you know them. If you take, for example, B Mathematics, the different subjects listed under it appear more like its extensions. Similarly properties of matter, sound, heat, electricity, magnetism etc., under C Physics are only adjuncts to the main class C. But in classifying, it makes a difference. Iii C6 Electricity, 6 is not a fundamental category, but is part of the basic class, and hence a separate facet formula had to be given for it.

- (f) **Planes of Work:** According to Ranganathan, there are three planes of work through which a scheme of library classification passes. The three planes are Idea plane, verbal plane and Notational plane.

A scheme of library classification has to first enumerate the Universe of Subjects, state their interrelations and fix their order. This is done in the idea plane. The findings of the idea plane are to be represented in terms. This is the verbal plane of Work. Lastly, these terms are transformed into a notation. This last plane of work is known as the notational plane. There are thus three planes of work: idea, verbal and notational.

- (g) **Rounds and Levels:** Having identified five fundamental categories, it was found that some of them manifest themselves- more than once in a subject, for example personality, matter and energy. This phenomenon was handled by the introduction of the postulates of rounds and levels. Take, for instance, a subject like Treatment of brain tumor by radium therapy. In this, we have the fundamental, categories brain FET tumor [A], treatment [ER]-and radium therapy [EL, 11 (E), thus, repeats itself. Such repetition of any of to three (R M and E) fundamental categories is called round of fundamental category. These rounds are indicated as [IPI], [2PI], [113], [2E], [1Mi], [2M1] and soon.

Let us take another example: King Lear by Shakespeare. First you must find what fundamental categories are present in this subject. The basic class is, of course; literature. The isolates are language, form of literature, author and his work. All these are isolates, I under the fundamental category personality. They, therefore, belong to the personality facet. 'These occurrences are referred to as levels of personality and they all fall in the first round. They are, therefore, indicated as [1P1], [1P2], [1P3], [1P4]. They are read as first level; first round, second level; first round, third level; and first round, fourth level.

Library and information science literature is replete with information about Dr. Shiyali Ramamrita Ranganathan, and for good reason. While considered the father of librarianship in his native India, his influence has spread far from India, to the entire library world. This paper will focus on the historical and contemporary importance of Ranganathan's ideas in the library profession, focusing specifically on his Colon Classification (CC) scheme.

Ranganathan's story of entering librarianship is an intriguing one. Brought up by his grandfather who was a teacher, he always placed an emphasis on education. He received his BA, and an MA in math from Madras Christian College. He taught physics and math at several colleges in India, but was dissatisfied with the low pay for teaching positions. As Garfield (1984) writes, "when his attempts to get higher pay for teacher failed, Ranganathan was reluctantly persuaded by a friend to apply for the well-paid post of Madras University librarian. To his surprise, he won the appointment, although he lacked any library training". Ranganathan disliked the library work at first, because of its quiet atmosphere and his current library's organizational problems. Eventually, he embraced the challenge and, after studying at the School of Librarianship, University College in London, he "launched a full-scale reform program to implement his ideas for staffing and furnishing the library as well as classifying and cataloging its contents". He also, in observing hundreds of other libraries, developed principles that he thought would unify libraries, and create a better organizational scheme. He devised the Five Laws of Library Science, simply-stated yet far-reaching principles that guide library practices through a user-centered philosophy. His ideas for organization took shape into an innovative classification scheme.

## Colon Classification

The task of organizing information packages is an age-old problem in information science. Ranganathan's scheme, known as faceted or Colon Classification (CC), allows classification of documents pertaining to complex and/or multiple subjects. His system was an alternative to the enumerative classification schemes already in use, such as the Dewey Decimal Classification (DDC) and the Library of Congress (LC) Classification. Enumerative systems ideally start with a list of all possible subjects, each with a corresponding number. Often, as in DDC, the subject divisions are arranged in a hierarchical manner, from most general to most specific. In an enumerative scheme, each document (book, webpage, etc.) to be catalogued is then assigned one of the numbers in the scheme. Such a system is limited because it requires "pigeon-holing" documents into preconceived categories.

On the other hand, the faceted system, while still "hierarchical at its main starting level" is a more flexible approach. CC is the first example of Analytico-synthetic "scheme in the complete sense". The term "analytico-synthetic" describes the process CC uses to classify an information package. The subject matter is analyzed into categories or facets, and a number, based upon Ranganathan's schedules, is synthesized for each facet that applies. Such a scheme is advantageous because it allows for classifying a document or information package based upon multiple aspects of its subject matter. That is, an item can be in multiple categories, and can have multiple values per category. Multiple responses to the question, "what is this information package about?" are accommodated within the scheme.

## Subject Analysis

Ranganathan set forth five categories or facets for determining subject content or "aboutness": time, space, energy, matter, and personality. Subject analysis in CC consists of evaluating information packages to determine a value or values in one or more of these categories. In a useful example, Ranganathan (1933) explains metaphorically how items are arranged in his scheme according to facets.

We shall imagine all the "Literature" books divided according to their languages and we shall imagine a separate building for the literature of each Language. A reader, interested, say, in English literature will have to go into the "English" building, so to speak. On entering the building he will find that all Poetry is put in one room, that all Drama is put in another room, all Fiction put in a third room, and so on. Let us assume that the reader is interested in Drama and that he enters the "Drama" room. There we may imagine that he will find several cupboards each devoted to a Dramatist. If the cupboard, pertaining to any Dramatist, is opened, he will find that each shelf is devoted to one work of the Dramatist. In that shelf all the editions of that work and all the criticisms of that work will be found arranged in a convenient order.

## Notation System

Ranganathan recognized that the best way to arrange books in a library was relationally, *i.e.* the position of a given item is relative to other items, not a fixed position. The system of notation that Ranganathan created to express the faceted classification idea includes various punctuation marks linking the numeric designations for each facet. It includes colons, leading to its name. In CC, each call number consists of a class number and book number.

The class number starts with a subject digit, representing the "main division of knowledge into which the book falls". Acknowledging that the ten subject divisions, as in DDC, are too few, CC has twenty-seven divisions. The class number assigned to an item is its "ultimate class" or the most specific possibility. Other parts of the class number that may be used include notations for common subdivisions, such as bibliographies, statistics, collected works, and the like. In addition, each of the twenty-seven subject divisions has more specific subdivisions. The class number may also include representations of further detail, such as geographical or chronological divisions.



Following the class number, the book number differentiates among books with the same ultimate class, and includes one or more of five parts: language number, date number, accession number, volume number and supplement number. Notice that for both the class number and the book number, some parts of the notation construction will be used as needed, and are not mandatory. For example, if an item does not consist of volumes, the volume number will not be used. This contributes to the flexible nature of the scheme.

The following example can aid one in understanding the parts of a CC call number:

The call number for works of literary criticism relating to Aristotle's *Poetics* is O13 :1 :9x1. To understand how this number was devised, we can separate the digits and explain what each represents.

O is the digit representing the subject division, Literature. 13 represents the language division, Greek, and this digit is followed by a colon. 1 represents the form division (within Literature) for poetry. 9 is the digit for a special Common Subdivision that is specific to classes within Literature. This digit is preceded by a colon and indicates that the work includes criticism. x is also a Common Subdivision digit, but can be used with any class, and represents Collected works and selections. 1 represents the Favoured Category device. This device allows digits 1-9 to be reserved for highly popular topics within the category, assuring priority in shelving for the most popular classes. In this example of Greek literature, Aristotle received the digit 1 because of the great number of items written about his work.

## Challenges and Potential

In Ranganathan's time, advantages and disadvantages of CC were discussed within the classification community. The Madras Library Association hoped that it would be as widely circulated as its predecessors and enable the libraries in India and elsewhere to get their resources classified and arranged in an efficient, scientific, and serviceable manner. However, as Singh (1999) documents, Ranganathan has little institutional support for his scheme. LC and DDC, established earlier, had significant support financially, as well as scholastically. In a paper stating the opinion of the Classification Research Group, several criticisms were made, including the concern that the five categories in Ranganathan's system did not fit all fields. In addition, it was noted that the system made notations exceedingly lengthy and confusing.

## Potential for Use in Online Systems

Acknowledging one of the same criticisms as Ranganathan's contemporaries, Taylor also notes, "The long notations created in faceted schemes are not easy to use for arranging physical information packages on shelves". Due to technological advancements that libraries have undertaken since Ranganathan's time, however, the potential for use of CC notation has increased. As Taylor continues, in online catalogs they have the potential to be quite helpful, as each facet may be searched independently.

As we have seen, there is inherent difficulty in arranging items in a physical space based upon any classification scheme. Kashyap acknowledges that "the rules of traditional library codes have been framed for well structured, but fixed display of information or data pertaining to the bibliographic items on cards". Kashyap goes on to recognize the limitations and difficulties users encounter with current online catalogues because they are essentially a computer-based replacement of the old card catalogue. He feels that the limitations online catalogues have, even now, can be removed if CC, or another faceted classification system, is used. CC has more potential with today's technology, allowing for classification and retrieval of electronic information packages, without the limitations imposed by physicality. Classifying using a faceted scheme allows for non-linear retrieval, now made possible through electronic catalogues.



## Controlled Vocabulary

While flexible, CC has a somewhat controlled vocabulary. Colon Classification includes, in addition to the classification rules, schedules that dictate the subject divisions and subdivisions. One of the criticisms of many classification schemes relates to this controlled vocabulary construct. Controlled vocabulary ideally allows us to “reconcile all the various possible words that can be used to express a concept”. Inevitably in doing so, however, it includes.

### 2.3 Dewey Decimal Classification (DDC)

Dewey Decimal Classification System (DCC) originally produced in 1876 by Melvil Dewey for a small North American college library is currently one of the most popular Library Classification Schemes. DDC is being revised faster than any other Universal scheme and currently is in its 21st edition.



*Did u know?* DDC is distributed in Machine-readable Cataloguing (MARC) records produced by the Library of Congress (LC) and bibliographic utilities like OCLC and RLIN.

DDC is available online (paid service) as Web Dewey and Abridged Web Dewey (DDC 21st ed.). DDC is also used in the national bibliographies of the UK, Canada, Australia, Italy and other countries. Research carried out by OCLC in the 1980s established that DDC is a suitable tool for browsing, first for library catalogues and then for the Internet.

## I. Strengths and Weaknesses of the Scheme

The general characteristics and advantages of universal schemes as given earlier are applicable in the case of DDC. Other characteristics to be noted are as follows:

- The scheme is revised more frequently than any other Universal Scheme.
- One more flexibility of DDC is that the numbers can be linked to other subject descriptive systems. For example, the numbers linked to LCSH headings by most major bibliographic services to the extent that their bibliographic records contain LCSH headings to gather with DCC and LCC classification data. The USMARC record contains specific tags for several different classification schemes: DDC, LCC, UDC and NLM together with tags for subject headings including LCSH and MeSH. Selected new LCSH headings are individually linked to DDC numbers and are made available via URL.
- The USMARC format also allows for links to be made between DDC and other classification systems, including LCC, UDC and NLM.
- Digital Availability.
- Copyright issues: Those who are using the classification can use the notation without restraints in library catalogues and WWW pages, but use of the other information in the schedules would require permission from Forest Press.
- It is quite clear that a Faceted Classification is more flexible than an Enumerative Classification Scheme. Though DDC was devised to be as an Enumerated Scheme, subsequent revisions have absorbed the structure and methodology of faceted classification and the use of facet analysis. As a result, subsidiary tables and ‘divide like’ devices that reflect and can express many aspects of complex topics have been expanded.
- Theoretically it could be said that DDC is more flexible than the Library of Congress Classification and certainly simpler than UDC.

## II. Weaknesses

Notes

- (a) **In Engineering (620 Class):** Certain concepts could not be represented uniquely, without overlapping. For example, the concept of “building” as a human act that involves design is spread between 624, 690 and 720. This overlapping always had been a problem with DDC since its inception in 1876.
- (b) **In Arts (700 Class):** Same kind of overlapping problem is found in the entire 700 class especially in 780 and 790, which are extremely chaotic.
- (c) **In Social sciences:** social groups are still classed separately from their culture. While the statistics of a subject are now classed at the subject with 021 appended, no number exists for the statistics of neo- or preinstall death or indeed, any mortality statistics with respect to a particular disease. The law schedule has seen major disagreement over whether jurisdiction or type of law should be classed first and, as a result, it allows ‘options’ in its interpretation. According to a comparative study undertaken by Biz/ed between the treatments of Business and Economics in DDC and UDC, it was proved that DDC treats the subject in the most suitable way. The recent shift in the subject towards market economies and all is being included in the DDC schedules.

## III. Dewey Decimal System

The Dewey Decimal Classification is stated as follows:

- (a) **Subject Gateways:** Subject gateways are Web-based services that provide access to Internet resources. These kinds of services often offer hierarchical browse structures based on subject classification schemes. A wide variety of different classification schemes have been used to provide browse access to Internet resources. This section will try to look into the various subject gateways, which make use of the Dewey Decimal Classification System.
  - (i) **ADAM**, the Art, Design, Architecture and Media Information Gateway, is a service being developed to help find useful, quality-assured information on the Internet. ADAM gives a searchable on-line catalogue describing Internet resources such as web sites or electronic mailing lists, in much the same way as a library catalogue describes. The brows able catalogue is arranged according to DDC 21st edition.
  - (ii) **Biz/ed** is a subject gateway for business education, which offers an online catalogue of good quality Internet resources (Like SOSIG Biz/ed also uses the ROADS software for its gateway). Since its inception in 1996, this catalogue has been using an abridged version of DDC to classify resources, and to create brows able subject categories. It has used the business section of DDC to pick out a selection of numbers and classes that could be used to form the brows able sections on the site.
  - (iii) **BUBL** the BUBL Information Services for the UK Higher Education Community gives subject based information services and covers all the subject areas. Subjects could be browsed by alphabetical or DDC (Ed. 21) order.

## IV. Dewey Decimal Classification

Dewey decimal classification (also called the Dewey Decimal System) is a proprietary system of library classification developed by Melvil Dewey in 1876. It has been greatly modified and expanded through 23 major revisions, the most recent in 2011. This system organizes books on library shelves in a specific and repeatable order that makes it easy to find any book and return it to its proper place. The system is used in 200,000 libraries in at least 135 countries.

### Design

The DDC attempts to organize all knowledge into ten main classes. The ten main classes are each further subdivided into ten divisions, and each division into ten sections, giving ten main classes, 100 divisions and 1000 sections. DDC's advantage in using decimals for its categories allows it to

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be purely numerical; while the drawback is that the codes are much longer and more difficult to remember as compared to an alphanumeric system. Just as an alphanumeric system, it is infinitely hierarchical. It also uses some aspects of a faceted classification scheme, combining elements from different parts of the structure to construct a number representing the subject content (often combining two subject elements with linking numbers and geographical and temporal elements) and form of an item rather than drawing upon a list containing each class and its meaning.

Except for general works and fiction, works are classified principally by subject, with extensions for subject relationships, place, time or type of material, producing classification numbers of at least three digits but otherwise of indeterminate length with a decimal point before the fourth digit, where present (for example, 330 for economics + .9 for geographic treatment + .04 for Europe = 330.94 European economy; 973 for United States + .05 form division for periodicals = 973.05 periodicals concerning the United States generally).

Books are placed on the shelf in increasing numerical order of the decimal number, for example, 050, 220, 330, 330.973, 331. When two books have the same classification number the second line of the call number (usually the first letter or letters of the author's last name, the title if there is no identifiable author) is placed in alphabetical order.

The DDC has a number for all books, including fiction: American fiction is classified in 813. Most libraries create a separate fiction section to allow shelving in a more generalized fashion than Dewey provides for, or to avoid the space that would be taken up in the 800s, or simply to allow readers to find preferred authors by alphabetical order of surname.

Some parts of the classification offer options to accommodate different kinds of libraries. An important feature of the scheme is the ability to assign multiple class numbers to a bibliographical item and only use one of them for shelving. The added numbers appear in the classified subject catalog (though this is not the usual practice in North America). For the full benefit of the scheme the relative index and the tables that form part of every edition must be understood and consulted when required. The structure of the schedules is such that subjects close to each other in a dictionary catalog are dispersed in the Dewey schedules (for example, architecture of Chicago quite separate from geography of Chicago).

## **Classes listed**

**Main article:** List of Dewey Decimal classes

The system is made up of seven tables and ten main classes, each of which are divided into ten secondary classes or subcategories, each of which contain ten subdivisions.

### **The tables are:**

- standard subdivision
- areas
- subdivision of individual literatures
- subdivisions of individual languages
- racial, ethnic, national groups
- languages
- persons

### **The classes are:**

- 000 - Computer science, information and general works
- 100 - Philosophy and psychology
- 200 - Religion

- 300 - Social sciences
- 400 - Language
- 500 - Science (including mathematics)
- 600 - Technology and applied Science
- 700 - Arts and recreation
- 800 - Literature
- 900 - History, geography, and biography.

## Administration and publication

While he lived, Melvil Dewey edited each edition himself: he was followed by other editors who had been very much influenced by him. The earlier editions were printed in the peculiar spelling that Dewey had devised: the number of volumes in each edition increased to two, then three and now four.

The Online Computer Library Center of Dublin, Ohio, United States, acquired the trademark and copyrights associated with the DDC when it bought Forest Press in 1988. OCLC maintains the classification system and publishes new editions of the system. The editorial staff responsible for updates is based partly at the Library of Congress and partly at OCLC. Their work is reviewed by the Decimal Classification Editorial Policy Committee (EPC), which is a ten-member international board that meets twice each year. The four-volume unabridged edition is published approximately every six years, the most recent edition (DDC 23) in mid 2011. The web edition is updated on an ongoing basis, with changes announced each month.

The work of assigning a DDC number to each newly published book is performed by a division of the Library of Congress, whose recommended assignments are either accepted or rejected by the OCLC after review by an advisory board; to date all have been accepted.

In September 2003, the OCLC sued the Library Hotel for trademark infringement. The settlement was that the OCLC would allow the Library Hotel to use the system in its hotel and marketing. In exchange, the Hotel would acknowledge the Center's ownership of the trademark and make a donation to a nonprofit organization promoting reading and literacy among children.

## Influence

DDC's numbers formed the basis of the more expressive but complex Universal Decimal Classification (UDC), which combines the basic Dewey numbers with selected punctuation marks (comma, colon, parentheses, etc.). Adaptations of DDC for specific regions outside the English-speaking world include the Korean Decimal Classification, the New Classification Scheme for Chinese Libraries and the Nippon Decimal Classification (Japanese).

## Comparison with Library of Congress Classification

Besides its frequent revision, DDC's main advantage over its chief American rival, the Library of Congress Classification system developed shortly afterward, is its simplicity. Thanks to the use of pure notation, a mnemonics system and a hierarchical decimal place system, it is generally easier to use.

DDC and UDC are more flexible than Library of Congress Classification because of greater use of facets (via auxiliary tables) while Library of Congress Classification is almost totally enumerative.

DDC's decimal system means that it is less hospitable to the addition of new subjects, as opposed to Library of Congress Classification, which has 21 classes at the top level. DDC notations can be much longer compared to other classification systems.

Another disadvantage of DDC is that it was developed in the 19th century essentially by one man and was built on a top-down approach to classify all human knowledge, which makes it difficult

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to adapt to changing fields of knowledge. The Library of Congress Classification system was developed based mainly on the idea of literary warrant; classes were added (by individual experts in each area) only when needed for works owned by the Library of Congress. As a result, while the Library of Congress Classification system was able to incorporate changes and additions of new branches of knowledge, particularly in the fields of engineering and computer science (the greater hospitability of the Library of Congress Classification was also a factor), DDC has been criticized for being inadequate in covering those areas. It is asserted that, as a result, most major academic libraries in the US do not use the DDC because the classification of works in those areas is not specific enough, although there are other reasons that may truly be more weighty, such as the much lower expense of using a unique "pre-packaged" catalog number instead of having highly skilled staff members engaging in the time-consuming development of catalog numbers.

The Library of Congress Classification system is not without problems. For example, it is highly US-centric because of the nature of the system, and it has been translated into far fewer languages than DDC and UDC.

## 2.4 Universal Decimal Classification (UDC)

The Universal Decimal Classification is a system of library classification developed by the Belgian bibliographers Paul Otlet and Henri La Fontaine at the end of the 19th century. It is based on the Dewey decimal classification, but uses auxiliary signs to indicate various special aspects of a subject and relationships between subjects. It thus contains a significant faceted or analytic-synthetic element, and is used especially in specialist libraries. UDC has been modified and extended through the years to cope with the increasing output in all disciplines of human knowledge, and is still under continuous review to take account of new developments. The documents classified by UDC may be in any form.

They will often be literature, *i.e.*, written documents, but may also be in other media such as films, video and sound recordings, illustrations, maps, and regalia such as museum pieces. UDC classifications use Arabic numerals and are based on the decimal system. Every number is thought of as a decimal fraction with the initial decimal point omitted, which determines filing order. For ease of reading, a UDC identifier is usually punctuated after every third digit. Thus, after 61 "Medical sciences" come the subdivisions 611 to 619; less than 611 "Anatomy" come its subdivisions 611.1 to 611.9; less than 611.1 come all of its subdivisions before 611.2 occurs, and so on; after 619 comes 620. An advantage of this system is that it is infinitely extensible, and when new subdivisions are introduced, they need not disturb the existing allocation of numbers.



*Notes* Universal Decimal Classification owes its origin to Dewey Decimal Classification (DDC). As noted in the introduction to UDC International Medium Edition, DDC had, even in the 19th century, "played an important part in establishing the norm of a systematic code denoting the subject as a primary means of arranging and retrieving literature in libraries".

Due to this virtue of DDC, it was natural for the scheme to attract the attention of a renowned Belgian bibliographer, Paul Otlet. This was in 1895 when Otlet, in collaboration with Henri La Fontaine, was working on a Universal Bibliography under the auspices of Institute International de Bibliography in Brussels. The projected compilation with which the two Belgian bibliographers were busy was called Universal Bibliographic Repertory, a comprehensive classified index to all published information.

Otlet was in search of a means for arranging the entries of the planned Universal Bibliography and he found the DDC to be most useful for the purpose. He, therefore, obtained permission from Melvil Dewey to translate his classification into French. Otlet and La Fontaine were impressed by the following merits of DDC:

1. It was, a classification of human knowledge;
2. It was an international language of numbers; and

3. The decimal numbers that comprised the language of DDC could be easily extended to accommodate not only new subjects, but also the details so essential for an international bibliography.
- (i) **Nature and Structure of UDC classifications:** You are now aware that UDC is based on DDC and that it is an improvement upon the original DD scheme. The manifold improvements evident in UDC may be summed up as follows:
1. Both DDC and UDC are general classifications. However, special subject editions of UDC are available and each of these can be placed under the category of special classification.
  2. The degree of detail achieved by UDC, through common and special auxiliaries, and through other devices, makes it suitable for bibliographic use. It is because of this reason that the editors of UDC call it bibliographic classification as against DDC, which is regarded as a library classification.
  3. Though both DDC and UDC are basically enumerative classifications (those that list compound- classes exhaustively), UDC 'is nevertheless a faceted scheme because of its practice of identifying characteristics common to many categories and arranging them in tables. Each of these is a facet.
- (ii) **Common Auxiliaries:** For the common auxiliaries there are two kinds of symbols: signs and sub-divisions. Signs: Signs are realtors indicating the relationship between the two numbers brought together to form a compound concept.
- (iii) **Auxiliary sub-divisions:** The common auxiliary sub-divisions are 'given as numeric tables. They are hierarchically enumerated. Though they resemble the main tables, they are distinguished by their own symbols. These symbols are prefixed to the number, or they enclose the number. These common auxiliaries are features recurring in all or most subjects. They are listed only once in the scheme in order that they maybe taken out and attached where they are required. The common auxiliary subdivisions, thus, facilitate synthesis and create mnemonics. The symbols that are associated with them can be taken as facet indicators, *e.g.*, parenthesis indicating the ' space facet and quotation marks revealing the time facet.
- (iv) **Special Auxiliaries:** Unlike common auxiliaries, special auxiliaries are not listed at one place in UDC as they are locally recurrent characteristics, meaning they do not have extensive applicability. Special auxiliaries are listed at various places in the tables and express the concepts that are applicable within the subject under which they are so listed,. Most special auxiliaries are enumerative. There is only one synthesizing sign, which is apostrophe ('). Since special auxiliaries are applicable only where they are. Indicated, the same notation may be used elsewhere with a different meaning attached to it. The special auxiliaries are suffixed to main numbers and, as. Such, cannot be used as independent numbers.



**Task** Differentiate Colon Classification (CC), Dewey Decimal Classification (DDC) and Universal Decimal Classification (UDC).

Instructions on the applicability of special auxiliaries are provided in the tables wherever they are applicable. For example, in 62 engineering, we come across the following instruction:

The special auxiliaries -1/-9 listed here fewer than 62 are applicable throughout 62/69 except where otherwise indicated. There are three kinds of notations used in special auxiliaries. They are:

The hyphen series: -1/-9 serving to indicate elements, components, properties and other details of the subject denoted by the main number, to which they apply, For example, the series 62-1/-9, applicable throughout 62/69, denotes engineering and mechanical details.



Notes

(v) **Main features:** UDC is owned, managed, maintained, and distributed by an international consortium of publishers with its headquarters in The Hague. Its editorial team comprises six Associate Editors lead by an Editor-in-Chief and supported by the UDC's Advisory Board of over 20 members. Salient features of UDC are:

- UDC is a practical bibliographic classification, truly international in efforts and exposition of contents. It is considered as the first faceted classification and a synthetic classification which is able to specify minute subjects, aspects, formats and their varied viewpoints.
- It is the first officially internationally used classification system being published in French, German and English.
- Its notation is independent of any particular language or script , and its translations have appeared in about 39 languages.
- It lays more emphasis on subject analysis and document specification.
- Its auxiliary apparatus of relations and synthesis is quite powerful. This makes the UDC a truly multidimensional scheme.
- It is more suitable for micro documents, electronic information and information retrieval in online and networked databases, and websites.
- Its structure is flexible to accommodate new subjects, and change citation order for flexibility of shelf arrangement and searching.

(vi) **Organization of knowledge and layout of the schedules:** It is a general classification covering the whole domain of knowledge. As already said, it has borrowed its basic structure from its parent, the DDC, with the exception of merging main classes 4 with 8 literatures.

The main class 4 is still vacant. The main classes thus are:

- Generalities
- Philosophy; Psychology
- Religion Theology
- Social Sciences
- [Vacant]
- Natural Sciences; Mathematics
- Technology
- The Arts
- Language; Linguistics; Literature
- Geography; Biography; History Unlike the DDC there is no condition of minimum of three digits in a class number.

(vii) **Common auxiliary tables:** Any number from the main table can be extended by notation from auxiliary tables, which are of two types, (i) Common auxiliaries: universally applicable to all classes; and (ii) special auxiliaries: applicable restrictively or locally.

(viii) **Notation and Layout:** The UDC notation is a mix of decimal numbers, punctuation signs, and symbols with permissible use of alphabets, or other non-UDC symbols. The use of decimal notation has made it a truly international classification with many technical advantages. It is hierarchical, expressive, hospitable, mnemonic, faceted and synthetic. Layout of the abridged edition (2003) explained here is that of the pocket edition (1999). In this edition instead of verbal signs, following symbols independent of language have been used to give notes and instructions under an entry in the schedules.

(ix) **Index:** Current terminology uses British spellings and idiom. In the index of the abridged edition there are 9500 main and 3500 subentries making a total of 13,000 entries contained in 107 pages. It gives an average of three access points per entry in the tables. Index entry is culled from the electronic files are arranged in word-by-word order to conform to the BS ISO 999 Standard. Specific names are entered following AACR 2 specifications. It includes all the principal divisions, inclusion notes, common and special auxiliaries and built-in compound numbers.



Collocation of terms depicts relations and qualifiers are added to homonymous words to show the context, *e.g.*, axes ( tools) , 672.7; axes (plants) , 581.4, or line (art), 7.013. In case of a synonym all its popular terms are indexed to avoid see- references, *e.g.*, both Aves and Birds have been indexed. Index is tidy and easy to use.

- (x) **Management, Maintenance, and Revision:** Since the 1990s the UDC has undergone sea changes in its technicalities, contents organisation, and management. It has been completely rejuvenated. The original FID/CCC, the committee in charge of the UDC, was replaced in 1985 by the UDC Management Board. On the recommendation of a Task Force constituted by the Board, the FID (now defunct ) handed over the ownership of the UDC to the non-profit, but self-financed UDC Consortium (UDCC) , which came into being on 1 January 1992. Since 2007, it consists of the publishers of the Dutch, English, French, Japanese, Russian, Spanish, and Czech editions of the UDC ([www.udcc.org](http://www.udcc.org)). It owns markets, maintains, innovates, and keeps the UDC updated<sup>10</sup>. The office of the UDCC is housed in the National Library of the Netherland at the Hague and is a managed by a Chairman. The first Edit or of the UDC, since the establishment of the UDC Consortium, was Professor Ia C. MacI lwaïne (1993-2006), and the present Chief Editor since June 2006 is Dr Maria Ines Corderio. The UDC Advisory Board consists of about 20 information professionals from all over the world. Each of the Consortium members has the right to issue UDC edition in its own language.

Language versions are not mere translations. These are updated with local and cultural additions. The BSI, a member of the UDCC, is responsible for the English editions ([www.bsi.org](http://www.bsi.org)). A UDC discussion list moderated by Dr. Andrew Buxton exists at [UDC-FORUM@JISCMAIL.AC.UK](mailto:UDC-FORUM@JISCMAIL.AC.UK). It is a forum to get and share UDC news and developments.

## Revision

The UDC revision is planned and regular. The UDCC controls its development acting as an international clearing house. It seeks help from special is in many subject fields. Normally revision proposals are published in the Extensions and Corrections to the UDC and comments and suggestions are invited from users and the members of the Advisory Board before finally being incorporated in the UCD-MRF. With the appointment of the Editor with sole and unlimited authority over revision for the first time since September 1993, the pace of revision has become quick. Users are informed of changes and expansions in the annual publication, UDC: Extensions and Corrections published every year in November (the last issue is Vol. 29, 2007). This annual publication also contains articles, major revision proposals and a bibliography on the UDC. Changes to UDC are in produced annually and the new UDC version is released by UDC Consortium every January. Editions of the UDC incorporating the author is exchanges are published by the members of the Consortium, each in its own language, or by any outside publisher licensed by the UDCC.

## Criticism

Despite its constant and enduring success, it has been criticised on certain points:

- (i) Its DDC base has always been criticized.
- (ii) Some notational devices, although apparently logical and satisfactory, cause problems in searching and browsing. *e.g.*, symbols like - and 0 overlap in function and may lead to confusion.
- (iii) Its auxiliaries are still developing with changes in some notational symbols.
- (iv) There are certain citation order problems, as no definite standard has been prescribed.
- (v) Main class 4 has still not been filled up.
- (vi) Notational changes are worrisome.

## **2.5 Applications**

In terms of its applications, now it is a most diversely used tool, ranging from shelf classification, organising bibliographies, web organisation to classification of conceptual and material objects. Though the first bibliographic classification, it is equally useful for arranging documents, their surrogates and other information bearing objects such as electronic files, AVs, maps, CDs, art collections, photographs, coins, stamps, and entities like persons, places and organisations.

Today, UDC is ranked as one of the big three most widely used classification systems of the world. Technically, it is considered much superior to the other two, namely the DDC and the Library of Congress Classification (LCC). It is used in 125 countries of the world, in over 1,00,000 libraries and information centres, especially in Europe and Latin America. It is used as de facto standard for indexing of scientific and research literature in central and European countries. It is translated in 39 languages and is also used in over 30 national, subject, and trade bibliographies including wall ford Guide. The abridged edition is equally useful for teaching. It has been a pioneer in finding its use in computerized databases, and works extremely well with computers. While its hierarchical structure and classified order are useful for computer screen browsing, its hierarchical and synthetic notation is helpful in accurate retrieval. Online UDC allows multiple search facilities, namely, string search in natural language, Boolean searches, and browsing up and down the hierarchy. Its pioneer use in OPACs has been successful. Since 1993, it has been tested and applied in organisation of Internet resources of many subject gateways, nine of which are available in English (*e.g.* WAIS/WWW, NISS - National Information Services and Systems; SOSIG - Social Science Information Gateway; FVL - Finnish Virtual Library; PORT - Maritime Information Gateway; GERHARD - German Harvest Automated Retrieval and Directory etc.), and since 2000 it has been more frequently applied in national Web portals and gateways in central and eastern Europe. In subject gateways, it can be put to the following uses: Manual classification of manual collection; manual classification of large number of automatically harvested resources by using metadata; and, automat I harvesting and classification.

It has emerged as an excellent source for building other indexing languages, thesauri, taxonomies and special classifications with its multilingual database. It has the potential to act as a witching language between different information systems. The UDC has emerged as knowledge organization tool of high quality, easy applicability and international validity.

### **Future**

As said earlier, UDC has been criticized for its DDC core and slow development. It has also been remarked that the UDC had better not been invented, yet it has not only survived but thrived in the bibliographic world where mortality rate is high. Introduced, it not only works but performs better than many of its competitors. For a century, despite lack of adequate finance and manpower, it has kept its head above waters. It has rejuvenated itself with constant reorganization since the last two decades. It is coping with updating by restructuring the knowledge using the frame work of the Bibliographic Classification (BC-2) -latter is much more up-to-date and better tutored than any other general scheme. Classes of religion, languages, literature and history are now completely restructured following the principles of facet analysis. The project of restructuring of Class 61 (Medicine) on the principle of facet analysis, undertaken by Nancy Williamson, is now approaching its completion. The UDC Seminar ([www.ulcc.org/seminar2007.htm](http://www.ulcc.org/seminar2007.htm)) in June 2007 at the UDCC Headquarter, a Dutch software company Magnified ([www.magnaview.nl](http://www.magnaview.nl)) presented an innovative visual application the UDC, which makes possible to view the UDC MRF in 20 novel ways with facility to interact it visually.

The software is commercially available from the company for the MRF license holders. With its well organised promotional network and keenness for innovations the DC seems only to have assured long future.

## Self Assessment

Notes

Fill in the blanks:

1. .... aims at demonstrating the way in which the human intellect transform the chaos of sense impressions into a cosmos of concepts.
2. Classification is an intellectual activity requiring much ..... and energy.
3. .... is considered, the father of librarianship in his native India.
4. In ....., the OCLC sued the Library Hotel for trade mark infringement.
5. Universal Decimal Classification use ..... numerals and are based on the decimal system.

## 2.6 Summary

- Classification aims at demonstrating the way in which the human intellect transforms the chaos of sense impressions into a cosmos of concepts.
- The CC, like- other scheme of classification, starts with a set of main classes which form the first order array, of classes. Each main class is divided into facets.
- Dewey Decimal Classification System (DCC) originally produced in 1876 by Melvil Dewey for a small North American college library is currently one of the most popular Library Classification Schemes.

## 2.7 Keywords

- Subdivisions* : The act or process of subdividing.  
*Juxtaposed* : Placed side by side often for comparison.  
*Brevity* : The quality or state of being brief in duration.

## 2.8 Review Questions

1. What is the basis of universal decimal classification?
2. What is Dewey Decimal classification? Explain its strengths and weaknesses.
3. Write a paragraph on types of classification schemes.
4. Explain colon classification with example.

## Answers: Self Assessment

- |                    |           |                     |
|--------------------|-----------|---------------------|
| 1. Classification  | 2. time   | 3. S.R. Ranganathan |
| 4. September, 2003 | 5. Arabic |                     |

## 2.9 Further Readings



Books

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't* The New York Times.

Chan, Lois Mai. *Cataloging and Classification: An Introduction*, second ed. New York: McGraw-Hill.



Online links

<http://publications.drdo.gov.in/gsd1/collect/dbit/index/assoc/>

<https://pantherfile.uwm.edu/kipp/public/courses/511/>

## Unit 3: Role of CRG, DRTC and ISKO

### CONTENTS

Objectives

Introduction

3.1. Classification Research Group (CRG)

3.2. Documentation Research and Training Centre (DRTC)

3.3. International Society for Knowledge Organization (ISKO)

3.4. Summary

3.5. Keywords

3.6. Review Questions

3.7. Further Readings

### Objectives

After studying this unit, you will be able to:

- Understand the meaning of CRG and its areas
- Discuss the role of CRG in classification schemes
- State about the DRTC and ISKO.

### Introduction

The CRG was established in the United Kingdom in 1952 to study the nature of classification and of existing bibliographic classification systems. Like Ranganathan, the CRG believed that traditional enumerative classification systems were limited by their inability to express compound subjects. The CRG looked to Ranganathan's theory of facet analysis to serve as the basis for all bibliographic classification systems, but modified aspects of this theory that it felt were too restrictive.

DRTC was established in Bangalore in 1962 by S.R. Ranganathan. It actively promoted different levels of research in library classification. These are: (1) Development research to develop depth schedules; (2) Fundamental research to develop postulates and principles; and (3) Systematic testing of depth schedules developed by faculty and alumni of DRTC. It has been organising annual seminars, on thrust areas of Library Classification and Information Science, conducting short term courses and workshops. It is bringing out, in collaboration with Sarada Ranganathan Endowment for Library Science a quarterly journal Library.

The International Society for Knowledge Organization (also referred to by its abbreviation ISKO) is the principal professional association for scholars of knowledge organization, knowledge structures, classification studies, and information organization and structure. ISKO's mission is "to advance conceptual work in knowledge organization in all kinds of forms, and for all kinds of purposes, such as databases, libraries, dictionaries and the Internet". ISKO "promotes research, development and applications of knowledge organization systems that advance the philosophical, psychological and semantic approaches for ordering knowledge; provides the means of communication, and networking on knowledge organization for its members; and functions as a connecting link between all institutions and national societies, working with problems related to the conceptual organization and processing of knowledge."

Henceforth, certain factor title which determines the library classification theory. In present unit, we will discuss the role of CRG, DRTC and ISKO in detail.

### 3.1 Classification Research Group (CRG)

This Group was formed in London in 1952. The early work of members of CRG is reflected in Sayer's Memorial Volume (London, Library Association, 1961). CRG as a whole published a brief outline of its views on faceted classification in 1953 and later issued a memorandum entitled 'The

need for faceted classification as the basis of all methods of information retrieval' in 1955. From 1952 to 1960 members of CRG turned their attention to the design of special schemes of library classification. CRG was of the opinion that no general classification existed which was suitable for computer retrieval. Therefore it was decided to develop a general classification scheme in association with the MARC Project for an automated retrieval system. Since the 1970s, CRG has been actively engaged in the following areas:

1. Revision of Bibliographic Classification of I LE. Bliss, by 3. Mills;
2. Formulation of Broad System of Ordering (BSO);
3. Classification Scheme on LIS; and
4. PRECIS

(a) **Stage I-Special Schemes:** Till 1950s the individual classification lists dominated the library classification scenario. However, Bibliographic Classification of Bliss and Colon Classification of Ranganathan were viewed by the international scholars as a mere theoretical rhetorics and interesting curiosities. To them, these schemes could in no way be solutions for problems created by the limited notational system and inherited limitations of the existing schemes in use like DOC and LC, for grappling the vast plethora of the published literature. In this backdrop, the Classification Research Group (CRG), London, came into existence in 1952 with only a dozen of active members who mainly were librarians of special libraries fully conversant with the difficulties and travails in the use of existing general classification schemes. The long experience in the use of these schemes became the focal point for CRG to design the special scheme to meet the demands of modern information users. Consequently, the members of the CRG produced innumerable schemes based on some original ideas and techniques which influenced the shape and direction of the trend of modern classificatory research. The Group members also utilized terms and techniques of Colon Classification, such as Facet and Facet Analysis.

(b) **Stage II-General Classification Scheme:** The concept of special schemes could not yield the desired results. The classificatory problems remained the same as were initially during Stage I. Again the solace was sought in the construction of a New General Scheme. The desirability of a new general classification was, therefore, envisaged in the two conferences held in England in 1957-Dorking Conference; and Reference and Special Libraries Section Conference. In 1962, NATO report Increasing the Effectiveness of Western Science appeared which also recommended a new scheme of classification for science and technology. NATO Science Foundation awarded a grant of £ 5,000 to the Library Association to study the project. Library Association entrusted this task to CRG. In 1963 CRG's plan for research into a new general classification was formally launched. Two research assistants-Mrs Helen Tomlinson 1964-67 and Derek Austin 1967-68 was appointed to work on this project. The result of the project was addition of few new terms and concepts in the classificatory terminology-such as Artefacts-man-made or processed entities; Mantefacts—Entities constructed by human mind and the theory of integrative levels for the arrangement of the entities.

### 3.2 Documentation Research and Training Centre (DRTC)

DRTC was established in Bangalore in 1962 by S.R. Ranganathan. It actively promoted different levels of research in library classification. These are:

1. Development research to develop depth schedules;
2. Fundamental research to develop postulates and principles; and
3. Systematic testing of depth schedules developed by faculty and alumni of DRTC. It has been organising annual seminars on thrust areas of Library Classification and Information Science, conducting short termcourses and workshops. It is bringing out, in collaboration with Sarada Ranganathan Endowment for Library Science a quarterly journal "Library Science with Slant to Documentation and Information Studies" (1964).



*Did u know?* The DRTC Research Cell started conducting experiments on the use of electronic machinery in document finding starting from May 1968.

**Notes**

One of the objectives of the series of experiments conducted was to examine the feasibility of using a conventional general purpose computer in document finding system using a freely faceted version of CC.' Experiments were also carried out to design a special purpose computerised document searching and called Doc. Number of papers were written on these experiments and published in *Library Science with a slant to Documentation*, Vol. 5 and 6. In a paper published in 1970s about information retrieval system based on CC described a set of fifteen programmes which provide for storing and updating a reference catalogue, a classification schedule, an alphabetical index to the schedule and a catalogue of user profiles.'

Michael Shepherd of the School of Computer Science, Canada, also conducted a set of experiments in 1981 to determine the suitability of CC as a basis for automated analysis, representation and retrieval of primary information from the full text of documents. He, however, concluded stating that the CG-based systems did not perform significantly better than the other systems. However, Michael A Shepherd and CR Watters in a paper presented in International Conference on Ranganathan in 1985, demonstrated that the recent developments in the area of relational database management system (DBMS) are making it feasible to take the advantage of faceted classification, such as CC for information retrieval. The purpose of this paper was to demonstrate that, in addition to traditional Boolean retrieval, relational DBMS can provide sophisticated retrieval based on ( the faceted structure of subjects. It can readily provide answers to such question as: What are the matter isolates of a given Personality? What is the facet string for a particular document? To them the use of such a relational structure may even be able to provide the basis for common retrieval language as suggested by Ranganathan'.

### **3.3 International Society for Knowledge Organization (ISKO)**

This society was founded at Frankfurt, Germany, in 1989. Its founder -president is Dr Ingetraut Dahlberg. The principal aim of this society is "to promote research, development and application of all methods for organization of knowledge in general and in particular fields, by integrating especially the conceptual approaches of classification research and artificial intelligence. The society stresses philosophical, psychological and systematic approaches for conceptual objects".

The society provides for personal contact and opportunities to the worldwide community of colleagues who devote themselves to the creation, expansion, revision and application of tools for the organization of knowledge according to the conceptual point of view. The society has already organized four international ISKO conferences. The summary of these conferences' deliberations has been presented later. The society is also bringing out a quarterly journal entitled "Knowledge Organization", formerly known as International Classification. This is devoted to concept theory, classification, and indexing and knowledge representation.

An interdisciplinary association, ISKO's worldwide membership draws from fields such as information science, philosophy, linguistics, library science, archive studies, science studies, and computer science. ISKO "promotes research, development and applications of knowledge organization systems that advance the philosophical, psychological and semantic approaches for ordering knowledge; provides the means of communication and networking on knowledge organization for its members; and functions as a connecting link between all institutions and national societies, working with problems related to the conceptual organization and processing of knowledge."

The Society publishes the quarterly academic journal *Knowledge Organization*, and it holds an international conference every two years. It officially recognizes national chapters in Brazil, Canada, China, France, Germany, India, Italy, Poland, Spain, the United Kingdom, and the United States. ISKO cooperates with international and national organizations such as UNESCO, the European Commission, the International Organization for Standardization, the International Federation of Library Associations and Institutions, the American Society for Information Science and Technology, the Networked Knowledge Organization Systems/Services, and the International Information Centre for Terminology.

Founded in 1973, *Knowledge Organization* (sometimes abbreviated as KO) is the official quarterly double-blind peer-reviewed academic journal of ISKO. It was formerly known as *International Classification* until 1993, when the title changed to its current form. Published in English, the Society describes the journal's scope this way:



In each issue, experts from many countries comment on questions of the adequate structuring and construction of ordering systems and on the problems of their use in providing access to the information contents of new literature, of data collections and survey, of tabular works and of other objects of scientific interest. Contributions: (1) clarify theoretical foundations (general ordering theory, philosophical foundations of knowledge and its artifacts, theoretical bases of classification, data analysis and reduction); (2) describe practical operations associated with indexing and classification, as well as applications of classification systems and thesauri, manual and machine indexing; (3) trace the history of knowledge organization; (4) discuss questions of education and training in classification; and (5) problems of terminology in general and with respect to special fields.

Notes

## Self Assessment

State whether the following statements are true or false:

1. The full form of BSO is Formulation of board system of ordering.
2. Documentation Research and Training Centre (DRTC) was established on Bangalore in 1962.
3. Classification Research Group (CRG) was formed in London.
4. ISKO stands for Indian Society for Knowledge Organization.

## 3.4 Summary

- CRG Group was formed in London in 1952. The early work of members of CRG is reflected in Sayer's Memorial Volume (London, Library Association, 1961).
- DRTC was established in Bangalore in 1962 by S.R. Ranganathan. It actively promoted different levels of research in library classification.
- ISKO society was founded at Frankfurt, Germany, in 1989. Its founder -president is Dr. Ingetraut Dahlberg.

## 3.5 Keywords

- Facet* : One side of something many-sided, especially of a cut gem.  
*Envisage* : Regard or conceive of as a possibility.  
*Feasibility* : Possible to do easily or conveniently.

## 3.6 Review Questions

1. Write a paragraph on International society for knowledge organization.
2. Write in detail about Documentation Research and Training Centre (DRTC).
3. Describe Classification Research Group (CRG).

## Answers: Self Assessment

1. False
2. True
3. True
4. False

## 3.7 Further Readings



Books

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences.  
*The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



Online links

[http://en.wikipedia.org/wiki/Documentation\\_Research\\_and\\_Training\\_Centre](http://en.wikipedia.org/wiki/Documentation_Research_and_Training_Centre)  
<http://www.ib.hu-berlin.de/~wumsta/iskobroc.html>



## Unit 4: Classification Theory

### CONTENTS

- Objectives
- Introduction
- 4.1. Canons of Ranganathan Theory
- 4.2. Summary
- 4.3. Keywords
- 4.4. Review Questions
- 4.5. Further Readings

### Objectives

After studying this unit, you will be able to:

- Discuss about the general theory of library classification
- Understand the canons of Ranganathan Theory.

### Introduction

In this Unit, an attempt has been made to present in brief the general theory of library classification. A theory refers to an organized set of principles, which provide the basis for further investigation into, and the development of a subject. It explains existing phenomena. A theory goes through the process of development from time to time and is constantly changing and improving. This is equally true with the development of the theory of library classification.

There are two distinct stages in the development of the general theory of library classification. In stage-1, we notice the emergence of the descriptive theory distilled out of the past practices in designing schemes of library classification and their use. In stage-2, on the other hand, we find the development of a dynamic theory for guidance in designing schemes with a greater degree of detail.

### **S.R. Ranganathan**

S.R. Ranganathan was instrumental in revolutionizing the Theory of Classification. He propounded certain fundamental ideas and concepts, which are the basis for the development of the Theory of Classification. 141- Consistently advocated that library classification should conform to the Laws of Library Science. He worked vigorously towards the most helpful regarding sequence of classes in a scheme of classification based on the concept of Facet Analysis and Fundamental Categories. He totally rejected the earlier schemes, based purely on enumeration. His laws, canons and principles of library classification have been presented in his Prolegomena to Library Classification. This is regarded as one of the seminal works on the Theory of Library Classification.

**Mapping of Universe of Knowledge:** Ranganathan visualised the problem of transforming the multi-dimensional universe of knowledge into a one-dimensional one. This was the fundamental and perennial problem faced by the classification it's in the design of schemes of classification. To meet this problem squarely, Ranganathan formulated the General Theory of Classification, which was guided by Basic Laws, Laws of Library Science, Canons, Principles and Postulates. With the help of these laws, canons and principles, the mapping of the universe of knowledge in a scheme of classification could be successfully represented. Details of these laws are summarized in the following pages.

(i) **Basic Laws:** Ranganathan formulated six basic laws, *viz*,

1. Law of Interpretation
2. Law of Impartiality
3. Law of Symmetry
4. Law of Parsimony
5. Law of Local Variation
6. Law of Osmosis'

These basic laws govern the thinking process in general. These may be invoked when two or more Laws of Library Science or Canons for Classification lead to conflicting or equally valid different decisions.

(ii) **Laws of Library Science:** Ranganathan's Five Laws of Library Science 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. A library is a growing organism.

These were formulated in 1928 and were first published in the book.

(iii) **Library Science (1931).** These laws have an impact on library functions and are invoked when two or more canons or principles of classification lead to conflicting or equally valid alternate decisions. These are useful in every branch of library and information science.

(iv) **Postulates for Facets:** The most significant contribution to the Theory of Classification is the enunciation, of postulates dealing with the concept of facet analysis and fundamental categories.

(v) **Fundamental Categories:** A subject may manifest itself in anyone or all of the fundamental categories. He postulated that "There are five and only five fundamental categories, namely Time, Space, Energy, Matter and Personality", PMEST; for short.

(vi) **Facet Sequence:** The five fundamental categories form the following sequence when they are arranged according to their decreasing concreteness PMEST.

(vii) **Rounds of 'Energy':** Ranganathan also postulated that "the fundamental category Energy may manifest itself in one and die same subject more than once." These manifestations of energy are called rounds of manifestations. Similarly, the fundamental categories Personality and Matter may manifest themselves in Round I, Round 2 and so on.

(a) **Levels:** He further postulated that the fundamental categories Personality and Matter may manifest themselves more than once in one and the same round within a subject. The first manifestation of a fundamental category within a round is said to be its level 1 facet in that round.

(b) **Space and Time:** manifest themselves in the last round. Principles of Facet Sequence: Ranganathan formulated four principles of Facet Sequence, *viz*,

1. Wall-Picture Principle
2. Whole-Organ Principle
3. Cow-Calf Principle
4. Actand Action-Actor-Tool Principle

These principles guide us in deciding the sequence of facets, which may appear in a compound subject.



**Task** Illustrate the advantages of Ranganathan Theory over Sayers Theory.

## 4.1 Canons of Ranganathan Theory

Ranganathan provided a completely new direction to the concept of classification originally formulated by Sayers. Ranganathan formulated 43 canons and grouped them into three planes of work.

- (a) Canons for Idea Plane (15).
- (b) Canons for Verbal Plane (4).
- (c) Canons for Notational Plane (24).

These are in total conformity with his Basic Laws and Laws of Library Science. These are normally invoked in the design of a scheme of library classification. Let us now discuss briefly these three groups of canons.

- (a) **Canons for Idea Plane:** The fifteen canons for Idea Plane are further grouped into
  - (i) Canons for Characteristics
  - (ii) Canons for Succession of Characteristics
  - (iii) Canons for Array
  - (iv) Canons for Chain
  - (v) Canons for Filiatory Sequence

The four canons for characteristics deal with the process of division of knowledge. The characteristics selected for division should be easily differentiated, ascertainable, relevant and permanent. The three canons for succession of characteristics in the process of division of knowledge deal with the application of more than one characteristic and the sequence in which these characteristics are to be applied. The four canons for array (coordinate classes) state that the classes in an array should be collectively exhaustive and mutually exclusive and the sequence among them should be helpful and consistent. The two canons for chain (subordinate classes) deal with the process of division of knowledge which should proceed from general to specific and it should be properly regulated. The two canons for foliature sequence state that a scheme of library classification should clearly identify both coordinate and subordinate classes and they should be arranged among themselves according to their mutual affiliation.

- (b) **Canons for Verbal Plane (4):** The four canons for Verbal Plane deal with the language and terminology aspects in a scheme of classification. The terminology used in the scheme should clearly indicate the context in which a particular term has been used and what aspects it comprehends. The terms used to denote concepts should be current and non-critical.

The four canons are:

- (i) Canon of Context
- (ii) Canon of Enumeration
- (iii) Canon of Currency
- (iv) Canon of Reticence

- (c) **Canons for Notational Plane.** These have been further grouped into:
  - (i) Basic Canons
  - (ii) Mnemonics
  - (iii) Growing Universe
  - (iv) Book Classification

Notation means a system of ordinal symbols representing classes in a scheme of library classification. The basic canons, which are twelve in number, deal with the need for the removal of homonyms and synonyms in class numbers. The notation, according to these canons, should reflect hierarchy of classes. The base of the notation may be mixed or pure. However, the basic canons discuss the relative capacity of each of these two types. The notation may be faceted or non-faceted. The canons nevertheless deal with the relative advantages of both kinds. The class number should be co-extensive or non coextensive. The implications of these two varieties are also explained through these canons.

The five canons for meanness deal with the need for different types of mnemonic devices, namely

- alphabetical,
- scheduled,
- systematic, and
- seminal

Notes

The four canons for growing universe deal with the capacity of a notational system for admission of newly emerging classes into the fold of a scheme of classification. Ranganathan called this capacity of a notational system by the terms hospitality in array and hospitality in chain. The 'notational system should be capable of admitting emerging new classes at the beginning, or at the end, or in the middle of an array or a chain. This is also known as extrapolation (at the beginning or end) and interpolation (in the middle) in an array. The three canons for book classification deal with the provision of a system for construction of book numbers and collection numbers in a scheme of classification.



*Did u know?* The sequence of three elements — class number, book number and collection number - moves up a Call Number.

- **Role of Postulates, Canons and Principles:** The postulates lay down the process of work in the idea plane. The canons lay down the rhythm of classification. The principles deal with the details of the arrangement of the isolates in the schedules. The laws, postulates, canons and principles listed in the preceding paragraphs laid down a sound foundation for the Dynamic Theory of Library Classification. The application of the principles has amply been demonstrated in Colon Classification scheme. From the fourth edition, published in 1952, Colon Classification has been a freely faceted scheme of classification based on the laws, postulates, canons and principles discussed above. Prior to the fourth edition, Colon Classification was a rigidly faceted scheme.

## Self Assessment

State whether the following statements are true or false:

1. Ranganathan was instrumental in revolutionizing the theory of classification.
2. Ranganathan formulated seven basic laws, govern the thinking process in general.
3. Ranganathan's five laws of library science were formulated in 1925.
4. Ranganathan formulated 53 canons and grouped them into three planes of work.

## 4.2 Summary

- S.R. Ranganathan was instrumental in revolutionizing the Theory of Classification. He propounded certain fundamental ideas and concepts, which are the basis for the development of the Theory of Classification.
- Ranganathan also postulated that “the fundamental category Energy may manifest itself in one and die same subject more than once.” These manifestations of energy are called rounds of manifestations.
- Ranganathan provided a completely new direction to’ the concept of classification originally formulated by Sayers. Ranganathan formulated 43 canons and grouped them into three planes of work.

## 4.3 Keywords

*Propounded* : To suggest or put forward for consideration.

*Descriptive* : Involving or characterized by description; serving to describe.

*Stalwarts* : Having or marked by imposing physical strength.

Notes

#### 4.4 Review Questions

1. Explain theory classification, according to Ranganathan.
2. Discuss about S.R. Ranganathan and his guided laws.
3. What are the canons of Ranganathan theory? State briefly.

#### **Answers: Self Assessment**

1. True
2. False
3. True
4. False

#### 4.5 Further Readings



Books

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't* The New York Times.

Chan, Lois Mai. *Cataloging and Classification: An Introduction*, second ed. New York: McGraw-Hill.



Online links

<http://www.britannica.com/EBchecked/topic/120378/classification-theory>

<http://kv1madurailibrary.wordpress.com/five-laws-of-library-science>

## Unit 5: Development and Trend in Classification

### CONTENTS

- Objectives
- Introduction
- 5.1. Architecture, Systems, Tools and Technologies in Classification
- 5.2. Role of Computers
- 5.3. Summary
- 5.4. Keywords
- 5.5. Review Questions
- 5.6. Further Readings

### Objectives

After studying this unit, you will be able to:

- Know about the development and trend to classification
- Discuss the role of computer in classification theory
- Describe the essential functions of a computer.

### Introduction

This column gives an overview of current trends in digital library research under the following headings: digital library architecture, systems, tools and technologies; digital content and collections; metadata; interoperability; standards; knowledge organization systems; users and usability; legal, organizational, economic, and social issues in digital libraries.

The emergence of digital libraries in the 1990s and their overwhelming growth in recent years has opened up new horizons across a broad array of issues related to design, implementation, development and evaluation of digital libraries. Digital libraries have been defined in a variety of ways. The Digital Library Federation (2002) Defines Them As: organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily available for use by a defined community or set of communities.

This definition involves three key components, which constitute the theoretical framework underlying digital libraries, namely:

1. people;
2. information resources; and
3. technology.

An investigation into research areas that have recently been explored or found challenging throws up issues in all three areas.

1. Joint Conference on Digital Libraries;
2. Sixth European Conference on Research and Advanced Technology for Digital Libraries; and
3. Fifth International Conference on Asian Digital Libraries.

### 5.1 Architecture, Systems, Tools and Technologies in Classification

Within this category lie all technical, infrastructural and algorithmic and system-related components of digital libraries. Some of the key issues here are:

**Notes**

- open networked architectures for new information environments;
- novel search and retrieval techniques such as federated search using data fusion [1], mediator architecture [2] and integrating links and ranking;
- audio-visual and multimedia information retrieval systems;
- content management systems;
- intelligent systems for indexing, abstracting and information filtering;
- harvesting and interoperability technologies; and
- collaborative, visual, 2D and 3D interfaces.

(i) **Digital content and collections:** This category refers to individual digital objects and to collections of objects in repositories encompassing a variety of materials in different digital formats. One major challenge with regard to metadata is the diversity of digital information formats. In this category there are challenges associated with digital content: for instance conversion of printed materials into digital format and the creation of digital-only materials for the purpose of a particular digital library. In addition, a host of other issues related to digital content and collections have been discussed.

These include: collection development strategies, policies and management;

- identifying collections of information which are not accessible or usable because of
- technical barriers;
- formulating strategies for sustainable and scalable collections;
- encouraging the development of new collections;
- the creation of digital objects and electronic publishing;
- the creation of new genres of digital objects; and
- issues related to digital preservation and Web archiving.

(ii) **Interoperability:** Interoperability is one of the most heavily discussed issues in digital library research. The requirement for interoperability derives from the fact that various digital libraries with different architectures, metadata formats and underlying technologies wish to effectively interact, something they can do through applying a range of common protocols and standards.



*Notes* The Open Archives Initiative (OAI) protocol (OAI, 2002) is the most widely discussed and investigated standard for cross-repository interoperability.

It allows distributed digital libraries to expose their metadata to a wider range of search and retrieval services and also to extract metadata from Web databases. Z39.50 has also been mentioned as another interoperability protocol for online catalogues and other types of information retrieval systems on the Web.

## **5.2 Role of Computers**

### **(a) Minimum Preparation for Work**

- Associates degree in computer science or;
- Graduation from high school or equivalent; and two years experience using computer software applications preferably in a public library.

### **(b) Nature of Work**

- This is professional work, instructing library staff and the public in the use of computer applications software.
- An employee in this class promotes the use of public library computer facilities and services. The work involves creating and implementing programs teaching the use of computers to individuals and groups. An employee in this class receives supervision from the Department Director or designee.



**(c) Essential Functions of a Computer**

Notes

- Computer Lab Desk duty as assigned.
- Schedules computer classes for the Library training lab based on demand.
- Provides instruction to the staff and general public in various computer software applications including, but not limited to: word processing, spreadsheets, database, and other productivity software.
- Designs and produces instructional materials for use in computer applications.
- Develops a collection of reference and self-instruction materials for computer software and computer applications.
- Investigates new application software for possible use by the library.
- Insures the good order, cleanliness and security of the training lab.
- Recommends computer books, videos, and other library materials for inclusion in the library collection in support of the training lab.
- Provides continuing educational instruction to branch staff in the use of new software.
- Works with community agencies and groups to develop specific programs for special populations (elderly, children, youth groups, church groups, etc.)
- May require working nights and weekends.
- Other duties as assigned.

**(d) Knowledge, Skills and Abilities**

- Knowledge of computer application software packages for use by the public.
- Some knowledge of reference materials and resources.
- Ability to instruct the Library staff and the general public in the use of computer software.
- Ability to communicate effectively, both orally and in writing.
- Ability to establish and maintain effective working relationships with other employees and liaison with community organizations.
- Ability to establish and maintain effective working relationships with associates and the general public.
- Familiarity with library resources and services.

The mental and physical demands and the work environment characteristics described below are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

**(e) Mental and Physical Requirements:** While performing the duties of this job, the employee is regularly required to use hands and fingers to hold or feel, reach with hands and arms, walk, talk and hear. The employee is occasionally required to stand, sit, climb, balance, stoop, and crouch. Specific vision abilities include close, distance, color, and peripheral vision, and depth perception. The employee regularly lifts and/or moves up to 25 pounds and occasionally lifts and/or moves up to 45 pounds. Work Environment: The noise level in the work environment is usually moderate. Some jobs may require an employee to be exposed to outside weather conditions, wet and/or humid conditions, and risk of electrical shock.

This description is not intended to be, nor should it be construed as an all-inclusive list of responsibilities, skills or working conditions associated with the position. It is intended to accurately reflect the activities and requirements of the position, but duties may be added, deleted, or modified as necessary. This description does not constitute a written or implied contract of employments.

Notes

### Self Assessment

Fill in the blanks:

1. One major challenge with regard to metadata is the diversity of ..... formats.
2. Knowledge, skills and abilities is major point in ..... of computer.
3. While performing the duties of computer job, the employee is regularly required mental and ..... abilities.
4. .... is one of the most heavily discussed issues in digital library research.



*Task* Illustrate the role of computer in classification theory.

### 5.3 Summary

- The emergence of digital libraries in the 1990s and their overwhelming growth in recent years has opened up new horizons across a broad array of issues related to design, implementation, development and evaluation of digital libraries.
- The employee is regularly required to use hands and fingers to hold or feel, reach with hands and arms, walk, talk and hear. The employee is occasionally required to stand, sit, climb, balance, stoop, and crouch.

### 5.4 Keywords

*Interoperability* : It is one of the most heavily discussed issues in digital library research.

*Liaison* : Communication or cooperation between people or organizations.

*Crouch* : Adopt a position where the knees are bent and the upper body is brought forward and down.

### 5.5 Review Questions

1. Write a paragraph on the role of computer in library classification.
2. Write a paragraph on architecture, systems, tools and technologies in library classification.
3. Discuss the development and trend in library classification.

### Answers: Self Assessment

1. digital information
2. role
3. physical
4. Interoperability

### 5.6 Further Readings



*Books*

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences.

*The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



*Online links*

<http://www.kc.tsukuba.ac.jp/dlkc/e-proceedings/papers/dlkc04pp105.pdf>  
[www.wikipedia.com](http://www.wikipedia.com)

## Unit 6: Concept of Call Number

### CONTENTS

- Objectives
- Introduction
- 6.1. Concept of Call Number
- 6.2. Class Number
- 6.3. Book Number
- 6.4. Collection Number
- 6.5. Summary
- 6.6. Keywords
- 6.7. Review Questions
- 6.8. Further Readings

### Objectives

After studying this unit, you will be able to:

- Understand the concept of call number
- Elaborate the concept of the class number
- State about the book number
- Illustrate the meaning of the collection number.

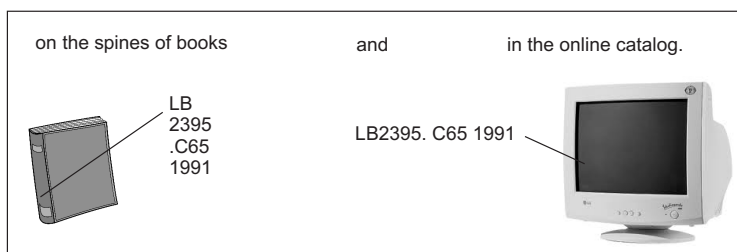
### Introduction

The first letter of a call number represents one of the 21 major divisions of the library concept (LC). For example, the subject "Q" is Science. The second letter "E" represents a subdivision of the sciences, Geology. All books in the QE's are primarily about Geology. Books in categories E, United States History, and F, Local U.S. History and American History, do not have a second letter (exception: in Canada, FC is used for Canadian history). Books about Law, K's, can have three letters, such as KFH, Law of Hawaii. Some areas of history (D) also have three-letter call numbers. Most other subject areas will have call numbers beginning with one or two letters. For most of the subject areas, the single letter represents books of a general nature for that subject area (*i.e.*, Q - General Science or D-General World History).

### 6.1 Concept of Call Number

Each book in the library has a unique call number. A call number is like an address and it tells us where the book is located in the library.

1. **Call numbers appear:** Call numbers appear on the spines of books and in the online catalog as shown below:



Note that the same call number can be written from top-to-bottom, or left-to-right.


Notes

Honolulu Community College Library, like many academic libraries in the United States, uses Library of Congress Classification for call numbers. This system uses a combination of letters and numbers to arrange materials by subjects.

**Library of Congress Classification arranges materials by subjects in the following manner**

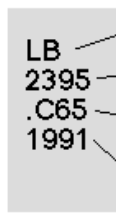
- The first sections of the call number represent the subject of the book.
- The letter and decimal section of the call number often represents the author's last name.
- And, as you recall, the last section of a call number is often the date of publication.

Example:

|   |   |
|---|---|
|  <p>Title: <i>What You Need to Know About Developing Study Skills. Taking Notes &amp; Tests, Using Dictionaries &amp; Libraries</i><br/>                 Author: Coman, Marcia J.<br/>                 Call number LB2395 C65 1991</p> | <p>The first two lines describe the subject of the book.<br/>                 LB2395 = Methods of Study, in Higher Education<br/>                 This line often represents the author's last name.<br/> <u>C65</u> = <u>C</u>oman<br/>                 The year the book was published.</p> |
|---|---|

2. **Reading Call Numbers:** In Reading Call Numbers, the first line has alphabetical order, the second line consists of whole number, the third line is the combination of a letter and numbers, and fourth line consists of the year in which the book was published.

For example:


|   |   |
|---|---|
| <p>Read call numbers line by line:</p>  | <p>Read the first line in alphabetical order:<br/>                 A, B, BF, C, D ... L, LA, LB, LC, M, ML ...</p> <p>Read the second line as a whole number:<br/>                 1, 2, 3, 45, 100, 101, 1000, 2000, 2430...</p> <p>The third line is a combination of a letter and numbers.<br/>                 Read the letter alphabetically.<br/>                 Read the number as decimal, e.g. C65 = 65, C724 = 724<br/>                 (Some call numbers have more than one combination letter-number line.)</p> <p>This is the year the book was published<br/>                 Chronological order: 1985, 1987, 1991, 1992 ...</p> |
|---|---|

3. **What does the call number mean?**

Remember that Library of Congress Classification arranges materials by subjects.

- The first sections of the call number represent the subject of the book.
- The letter-and-decimal section of the call number often represents the author's last name.
- And, as you recall, the last section of a call number is often the date of publication.

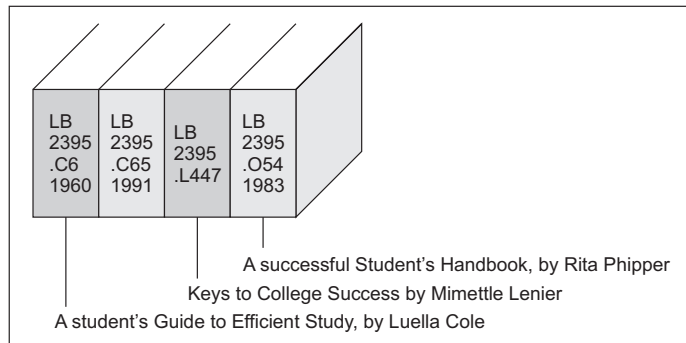
For example:

|   |   |
|---|---|
|  <p>Title: <i>What You Need to Know About Developing Study Skills. Taking Notes &amp; Tests, Using Dictionaries &amp; Libraries</i><br/>                 Author: Coman, Marcia J.<br/>                 Call number LB2395 C65 1991</p> | <p>The first two lines describe the subject of the book.<br/>                 LB2395 = Methods of Study, in Higher Education<br/>                 This line often represents the author's last name.<br/> <u>C65</u> = <u>C</u>oman<br/>                 The year the book was published.</p> |
|---|---|

## Why is this important to know?

## Notes

Because books are classified by subject, you can often find several helpful books on the same shelf, or nearby. For example, within the same call number LB2395, there are other guides for college study.



Since Library of Congress Classification arranges materials by subjects, knowing the letter(s) for your subject area gives you a place to start browsing the shelves. Which letters represent your subject?.

4. **Location Prefixes:** When a call number looks like the examples above, (e.g. LB2395 .C65 1991), the book is shelved on the second floor of HCC Library. Some call numbers, however, are preceded by a location prefix.

**Example:**

Ref AG243 .G87 1992

The Reference, prefix indicates that this book is shelved in the Reference Collection.

Location prefixes mean that book is shelved in a special place, and may have loan restrictions. HCC Library uses the following location prefixes:

| <i>Prefix</i> | <i>Collection</i>  | <i>HCC Library Location</i>         | <i>Loan Period</i> |
|---------------|--|-------------------------------------|--------------------|
| [Blank]       | Circulating Collection   | 2nd floor                           | 28-day loan        |
| HawPac        | Hawaii/Pacific Collection                                      | 2nd floor, Diamond Head wall        | 14-day loan        |
| Oversize      | Oversize — a big book!   | 2nd floor, Diamond Head Wall        | 28-day loan        |
| Popular       | Popular — mostly fiction, such as mystery, sci-fi, and romance | 2nd floor, at the top of the stairs | 28-day loan        |
| Ref           | Reference Collection   | 1st floor                           | Library-use only   |
| HawPac Ref    | Hawaii/Pacific Reference                                       | 1st floor, Circulation Counter      | Library-use only   |
| Tech Ref      | Automobile Technical Collection                                | 1st floor, Diamond Head side        | Library-use only   |
| Dinosaur      | Dinosaur Collection  | 1st floor, Diamond Head side        | 14-day loan        |
| Ocean         | Ocean Collection   | 1st floor, Diamond Head side        | Library-use only   |
| Reserve       | Reserve Book set aside for a class                             | 1st floor, Circulation Counter      | Set by instructor  |
| Tele          | Tele course videotape  | 1st floor, Circulation Counter      | Overnight          |

**Notes**

Our web pages include more information about these Collections. For more information about call numbers and finding library materials, ask your librarian.



*Task* Explain how the call number help to search the book into the Library.

## 6.2 Class Number

- Library class number (CLN) is a free library for arbitrary precision arithmetic.
- It operates on signed integers, rational numbers, floating point numbers, complex numbers, modular numbers, and univariate polynomials.
- Its implementation programming language is C++.



*Notes* CLN uses object oriented techniques and operator overloading to achieve a natural algebraic syntax: The sum  $x$  of two variables  $a$  and  $b$  is written as  $x = a + b$ , as opposed to the function sum ( $\& x, a, b$ ).

CLN uses class inheritance to model the natural subsets of the available number types: *e.g.*, the integer class is a subtype of the rational class, just as the integer numbers are a subset of the rational numbers. The complex numbers and all its subtypes behave exactly like the types of numbers known to the Common Lisp language, giving CLN another meaning: it becomes an abbreviation of Common Lisp Numbers. Due to this, CLN can be and is used for implementations of Common Lisp, other interpreted languages, or computer algebra systems.

## Features and Overview

(a) CLN is a C++ library providing the following features:

- **Rich set of number classes:** Integer (unlimited precision), rational, short float, single float, double float, long float (unlimited precision), complex, modular integer, univariate polynomial.
- Elementary, logical, transcendental functions.

**C++ as implementation language brings**

- Efficiency.
- Type safety.
- Algebraic syntax.

**Memory efficiency:**

- Small integers and short floats are immediate, not heap allocated.
- Automatic, non-interruptive garbage collection.

**Speed efficiency:**

- Assembly language kernel for some CPUs,
- Karatsuba and Schönhage-Strassen multiplication,
- Binary splitting

**Interoperability:**

- Garbage collection with no burden on the main application,
- Hooks for memory allocation and exceptions.



### 6.3 Book Number

Notes

- (a) **The International Standard Book Number (ISBN):** The International Standard Book Number is a unique numeric commercial book identifier-based upon the 9-digit Standard Book Numbering (SBN) code created by Gordon Foster, Emeritus Professor of Statistics at Trinity College, Dublin, for the booksellers and stationers W.H. Smith and others in 1966. The 10-digit ISBN format was developed by the International Organization for Standardization (ISO) and was published in 1970 as international standard ISO 2108. (However, the 9-digit SBN code was used in the United Kingdom until 1974.) Currently, the ISO's TC 46/SC 9 is responsible for the ISBN. The ISO on-line facility only refers back to 1978. Since 1 January 2007, ISBNs have contained 13 digits, a format that is compatible with EAN-13s. Occasionally, a book may appear without a printed ISBN if it is printed privately or the author does not follow the usual ISBN procedure; however, this is usually later rectified. A similar numeric identifier, the International Standard Serial Number (ISSN), identifies periodical publications such as magazines.

R.R. Bowker is the U.S. Agency of the International Standard Book Numbering Convention, as approved by the International Organization for Standardization. As such, it is the originator of ISBNs for U.S.-based publishers. Authors of self-published books can purchase an ISBN for \$125.00. Publishers in other countries can only obtain ISBNs from their local ISBN Agency, a directory of which can be found on the International ISBN Agency website.

- (b) **Group identifier:** The group identifier is a 1 to 5 digit number. The single digit group identifiers are: 0 or 1 for English-speaking countries; 2 for French-speaking countries; 3 for German-speaking countries; 4 for Japan; 5 for Russian-speaking countries, 7 for People's Republic of China. An example 5 digit group identifier is 99936, for Bhutan.

The allocated groups IDs are: 0-5, 600-617, 7, 80-94, 950-989, 9927-9989, and 99901-99967. Some catalogs include books that were published with no ISBN but add a non-standard number with an as-yet unallocated 5-digit group such as 99985; this practice is not part of the standard. Books published in rare languages typically have longer group identifiers. The original standard book number (SBN) had no group identifier, but affixing a zero (0) as prefix to a 9-digit SBN creates a valid 10-digit ISBN. Group identifiers form a prefix code; compare with country calling codes.

- (c) **Publisher code:** The national ISBN agency assigns the publisher number (cf. the category: ISBN agencies;) the publisher selects the item number. Generally, a book publisher is not required to assign an ISBN, nor is it necessary for a book to display its number. However, most book stores only handle ISBN-bearing merchandise.

A listing of all the 628,000 assigned publisher codes is published, and can be ordered in book form (558, US\$ 915.46). The web site of the ISBN agency does not offer any free method of looking up publisher codes. Partial lists have been compiled (from library catalogs) for the English-language groups: identifier 0 and identifier 1. Publishers receive blocks of ISBNs, with larger blocks allotted to publishers expecting to need them; a small publisher may receive ISBNs of one or more digits for the group identifier code, several digits for the publisher, and a single digit for the individual items. Once that block of ISBNs is used, the publisher may receive another block of ISBNs, with a different publisher number. Consequently, a publisher may have different allotted publisher numbers. There also may be more than one group identifier used in a country. This might occur if a popular identifier has used up all of its numbers. The cited list of identifiers shows this has happened in China and in more than a dozen other countries.

By using variable block lengths, a large publisher will have few digits allocated for the publisher number and many digits allocated for titles; likewise countries publishing much will have few allocated digits for the group identifier, and many for the publishers and titles.

## Notes

| ISBN          | Country or area          | Publisher              |
|---------------|--------------------------|------------------------|
| 99921-58-10-7 | Qatar                    | NCCAH, Doha            |
| 9971-5-0210-0 | Singapore                | World Scientific       |
| 960-425-059-0 | Greece                   | Sigma Publications     |
| 80-902734-1-6 | Czech Republic; Slovakia | Taita Publishers       |
| 85-359-0277-5 | Brazil                   | Companhia das Letras   |
| 1-84356-028-3 | English-speaking area    | Simon Wallenberg Press |
| 0-684-84328-5 | English-speaking area    | Scribner               |
| 0-8044-2957-X | English-speaking area    | Frederick Ungar        |
| 0-85131-041-9 | English-speaking area    | J. A. Allen & Co.      |
| 0-943396-04-2 | English-speaking area    | Willmann-Bell          |
| 0-9752298-0-X | English-speaking area    | KT Publishing          |

## 6.4 Collection Number

- (i) **Collection Number** : 113  
**Collection Name** : National Agricultural Library (NAL) Records  
**Earliest Date** : 1867  
**Latest Date** : 2002  
**Bulk Dates** : 1867-1980  
**Linear Feet** : 81
- (a) **Collection Description:** The National Agricultural Library (NAL) Records include correspondence, reports, regulations, agreements, budget hearings, clippings, articles, newsletters, manuals, and photographs on library-related activities. Of particular note are the records from 1907-1940 when Claribel R. Barnett was not only head librarian for the departmental library but also was quite active in the library-related organizations. The archival material includes papers relating to directors of the library such as Ralph Robert Shaw, 1940-1954, Foster E. Mohrhardt, 1954-1968, and John Sherrod, 1968-1973.
- (b) **Historical or Biographical Sketch:** In 1862 President Abraham Lincoln signed an act that established the U.S. Department of Agriculture (USDA). One year later, through a donation of a collection of over 1,000 volumes of agriculture-related materials from the Agricultural Division of the U.S. Patent Office, the library mandated by the act establishing the USDA came to life. The purpose of the library was to gather agricultural information from a wide array of sources and provide it to the people of the United States. In the century that followed, the library was located in various locations in the USDA's buildings in Washington, D.C. Also during this time, the library had a formidable succession of librarians who were leaders in furthering the professionalism of librarianship. In 1962 Secretary of Agriculture Orville J. Freeman designated the USDA's library the National Agricultural Library (NAL). This move put the library on par with other national libraries, and also affirmed its distinction as the world's foremost institute of agricultural information. In 1960 plans were drawn up to create a new dedicated facility for the library. In 1969 the USDA's information institution was successfully moved from the USDA South Building to what is now the Abraham Lincoln Building, USDA, in Beltsville, Maryland. Throughout the 1960s and 1970s NAL brought forth many agriculture-related information resources and centers. Most notable of these resources are the Dictionary Catalog of the National Agricultural Library, 1862-1965; the National Agricultural Library Catalog, 1966-1970; CAIN (CAataloging and INdexing) and CAIN-ON-LINE (later renamed AGRICOLA); and the Food and Nutrition Information Center.
- (ii) **Collection Number** : 115  
**Collection Name** : National Association of County Agricultural Agents (NACAA) Records  
**Earliest Date** : 1921  
**Latest Date** : 1992  
**Linear Feet** : 8.75

(a) **Collection Description:** The National Association of County Agricultural Agents (NACAA) Records consist of the constitution and by-laws of the NACAA, patents and registration of trade names paperwork, distinguished service awards lists, articles of incorporation, photographs, and copies of the book History of the National Association of County Agricultural Agents, 1915-60, and NACAA Educational Foundation applications and records.

(b) **Historical or Biographical Sketch:** The first annual meeting of the National Association of County Agricultural Agents (NACAA) took place in Chicago, Illinois, in 1916, during the International Livestock Exposition. The main purposes of the organization were set forth to include providing a means for the exchange of constructive ideas in county agent work and to establish high standards in the states regarding the qualifications and ability of ment to be employed for Extension work.

Processed: No, contact Special Collections.

(iii) **Collection Number** : 315  
**Collection Name** : National Association of Extension Home Economists Collection  
**Earliest Date** : 1943  
**Latest Date** : 1984  
**Linear Feet** : 3.25

(a) **Collection Description:** The National Association of Extension Home Economists Collection consists of 3 sets of bound volumes, totaling 13 in all. Volumes 1-9 (1943-1984) are titled Minutes of Meetings. Volumes 1-2 (1943-1984) are titled Reporter and subtitled News from National, the Letter, the News Letter, the HDA Reporter, and the EHE Reporter. Volumes 1-2 (1946-1984) are titled Annual Meeting Programs.

(iv) **Collection Number** : 255  
**Collection Name** : National Commission on Small Farms (NCSF) Records  
**Earliest Date** : 1997  
**Latest Date** : 1998  
**Bulk Dates** : 1997-1998  
**Linear Feet** : 16.25

(a) **Collection Description:** The National Commission on Small Farms (NCSF) Records relate to the work of the National Commission on Small Farms. Records include administrative files; transcripts (paper, tape, and disk) of public hearings; letters from small farmers; executive correspondence; memoranda; drafts and final copy of "Report of the USDA National Commission on Small Farms: A Time to Act"; letterhead and design for final report; email requests for copies of the NCSF report; computer disks of small farm documents; committee reports within the NCSF; and miscellaneous resource documents.

(b) **Historical or Biographical Sketch:** The National Commission on Small Farms (NCSF) was established by Secretary of Agriculture Dan Glickman in 1997. The committee was charged to study the problems of small and limited-resource farmers and to make recommendations to help those farmers.



*Task* How ISBN is differ from class number and collection number?

## Self Assessment

State whether the following statements are true or false:

1. Call number is an address which tells us where the book is located in the library.
2. Class number implements in programming language C++.
3. ISBN stands for International Standard Bank Number.
4. The first annual meeting of the National Association of County Agricultural Agents (NACAA) took place in Russia.

## 6.5 Summary

- The International Standard Book Number is a unique numeric commercial book identifier-based upon the 9-digit Standard Book Numbering (SBN) code created by Gordon Foster, Emeritus Professor of Statistics at Trinity College, Dublin , for the booksellers and stationers W.H. Smith and others in 1966.
- The group identifier is a 1 to 5 digit number. The single digit group identifiers are: 0 or 1 for English-speaking countries; 2 for French -speaking countries; 3 for German-speaking countries; 4 for Japan; 5 for Russian-speaking countries, 7 for People’s Republic of China.

## 6.6 Keywords

*Correspondence* : The act or condition of agreeing or corresponding.

*Transcripts* : A written, typed, or printed copy or manuscript made by transcribing.

*Exposition* : The art or technique of composing such discourses.

## 6.7 Review Questions

1. Explain the concept of call number in cataloguing theory.
2. What is meant by CLN? Write its features and overviews.
3. Write a paragraph on book number in library cataloguing.
4. Illustrate briefly about collection number.

## **Answers: Self Assessment**

1. True
2. True
3. False
4. False

## 6.8 Further Readings



Books

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't* The New York Times,

Chan, Lois Mai. *Cataloging and Classification: An Introduction*, second ed. New York: McGraw-Hill,

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences,

*The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



Online links

[http://www.transitioning2college.org/finding\\_books\\_in\\_academic\\_libraries](http://www.transitioning2college.org/finding_books_in_academic_libraries).  
<http://miskatonic.org/library/book-numbers.html>

# Unit 7: Concept of Library Catalogue

Notes

## CONTENTS

- Objectives
- Introduction
- 7.1 Definition of Library Catalogue
- 7.2 Functions and Forms of Catalogue
- 7.3 Dictionary Catalogue
- 7.4 Summary
- 7.5 Keywords
- 7.6 Review Questions
- 7.7 Further Readings

## Objectives

After studying this unit, you will be able to:

- Define of Library Catalogue
- Illustrate the functions and forms of Library Catalogue
- Explain the dictionary Library Catalogue.

## Introduction

The Catalogue plays vital role in the society. All the business concerns are preparing and maintaining their catalogue for their successful operation. Library, as a social institution and service institution is also depends upon catalogue for its successful functioning. Let us discuss the objectives and functions of the library catalogue.

The term “Catalogue” has been formed from a Greek phrase “KATALOGOS”. ‘KATA’ means ‘according to’ or ‘by’ and ‘LOGOS’ means ‘word’ or ‘order’ or ‘reason’.

Thus, the term Catalogue may be regarded as a:

1. work in which contents are arranged in a reasonable way.
2. work which is done on a set plan; and Work whose contents are arranged in a systematic way.

## 7.1 Definition of Library Catalogue

Library catalogue is a list of reading material available in a library. The list contains entries of books, arranged according to some definite plane or order. It is confined to the contents of a particular library or collection. It may be described as a record and a finding list, which identifies traces and locates a book in a library.

Catalogue is a “List of library materials contained in a collection, a library, or group of libraries, arranged according to some definite plan” —ACR II. “A Library catalogue is a list of documents in a library or in a collection forming a portion of it” — Dr. S.R. Ranganathan.



*Notes* According to James Duff Brown, “a library catalogue is an explanatory, logically arranged inventory and key to the books and their contents, and differs from a bibliography in being confined to the books in a particular library”.

**Notes**

Catalogue is a recording of information regarding manuscripts, books, pamphlets, musical, composition, illustrations, prints, maps, and slides — H.A. Sharp.

## **7.2 Functions and Forms of Catalogue**

Physical forms represent the materials and the manner in which the catalogues are made available. A catalogue may be presented in any one of a number of different physical forms. The following are the varieties of physical/outer/external forms of catalogue.

- (a) Book Catalogue
- (b) Card Catalogue
- (c) Sheaf Catalogue
- (d) Guard Book catalogue
- (e) Visible Index catalogue
- (f) Micro form of catalogue
- (g) Machine Readable catalogue

### **(a) Book Catalogue**

It is also known as Printed Book catalogue. The kind of catalogue has been a traditional form adopted in many large libraries. Some big libraries used to publish a general printed catalogue of their collection up to date and then issue periodical supplements to keep the original volume up to date.

The book catalogue is a catalogue of books bound in a volume where entries are printed or written on pages. This form of catalogue was developed from the very early days of printing itself. It is also known as Printed Page Catalogue.

### **Advantages**

1. Since this type is a traditional type, people are familiar with this and hence it creates less psychological barrier to the readers.
2. **Easy to handle.** Since this type is almost like a conventional type of a book, it is very easy to handle.
3. **Economy.** Due to economical problems small libraries are preparing this type for use.
4. **Portability.** Number of copies can be printed and distributed. It is portable. Every reader can have a copy for his or her reference.
5. **Span of vision.** Since this type has many entries on a page, one can go through many entries at a time.
6. Missing pages if there is any missing of pages, it can easily be detected and rectified because every page is numbered serially. This is not possible in card catalogue.
7. **Book selection tool.** This catalogue is used as a book selection tool.
8. **Publicity** Since this type of catalogue is portable, it gives more publicity to the library.

### **Disadvantages**

1. **Up-to-dateness.** The greatest drawback is up-to-dateness. Latest additions will find place in the book catalogue.
2. Time to find a particular entry one has to go through many entries and some times number of books, there by it consumes time.
3. **Weeding out.** For missing books, the entries are to be weeded out. This is not possible in book catalogue.
4. Even the libraries want to bring out a new catalogue, its production is laborious and disproportionately expensive. Too much of editorial work is involved with the result, many staff members are to be appointed. This is true if the library is big.



### 7.3 Dictionary Catalogue

In catalogue, both the physical form and inner form is equally important. The inner forms of the catalogue include the necessary entries that are essential to describe a document. The inner form decides which one of the several access points is to be considered 'Prime' or 'important' or 'main'.

In a classified catalogue, the class to which the book belongs is considered as important. But in a dictionary catalogue the author is considered as important. The main entry in a Dictionary catalogue is prepared under the author.



*Did u know?* The dictionary catalogue is a compilation of all the main entries, added entries, subject entries and reference cards.

These headings are arranged in one alphabetical sequence as follows:

|                 |              |
|-----------------|--------------|
| Anatomy         | Subject      |
| Arivumathi      | Author       |
| Asian Tour      | Title        |
| Biochemistry    | Subject      |
| Bushnell T      | Joint author |
| Chatterjee M.   | Editor       |
| Ganguli S.      | Illustrator  |
| Geography       | Sub.         |
| Jackson K.      | Comp.        |
| Law             | Sub.         |
| Medicine        | Sub.         |
| Narayanan R.    | Author.      |
| Psychology      | Sub.         |
| Travel in India | Series.      |

These headings are quite unrelated to each other as they stand their positions in the catalogue have been determined by the alphabets used in their spellings. This type of catalogue is called a dictionary catalogue because of its resemblance to a dictionary in arrangement, that is, it follows the simple alphabetical order of any dictionary. The entries are made under the names of the authors and are arranged alphabetically. It is easy to consult. But it has many problems.

#### Advantages

1. It is very easy to consult.
2. Knowledge of classification scheme is not required to use it.
3. It is useful for specific information and ready reference.

#### Disadvantages

1. If there are two or two more authors, or short stories or collection of poems how to give the main entry in such cases in the problem.
2. If the book is published under the name of a corporate body again the problem of making main entry arises.



*Task* Write a short note on dictionary catalogue.

Notes

## Self Assessment

State whether the following statements are true or false:

1. Library, as a social institution and service institution also depends upon catalogue for its successful functioning.
2. For missing books, the entries are to be weeded out.
3. Up-to-dateness is the greatest drawback in the forms of library catalogue.
4. The main entry in a Dictionary catalogue is prepared under the publisher.

### 7.4 Summary

- Catalogue is a “List of library materials contained in a collection, a library, or group of libraries, arranged according to some definite plan” AACR II.
- The book catalogue is a catalogue of books bound in a volume where entries are printed or written on pages. This form of catalogue was developed from the very early days of printing itself. It is also known as Printed Page Catalogue.

### 7.5 Keywords

- Described* : To convey an idea or impression of; characterize.  
*Catalogue* : To make an itemized list of, catalog a record collection.  
*Collection* : The act or process of collecting.

### 7.6 Review Questions

1. Define library catalogue and its definitions.
2. Explain the functions and forms of library catalogue.
3. Write a brief note on dictionary catalogue.
4. Discuss the advantages and disadvantages of dictionary catalogue.

## Answers: Self Assessment

1. True                                      2. True                                      3. True                                      4. False

### 7.7 Further Readings



Books

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't* The New York Times,  
Chan, Lois Mai. *Cataloging and Classification: An Introduction*, second ed. New York: McGraw-Hill,



Online links

<http://wiu.libguides.com/catalog>  
<http://widodo.staff.uns.ac.id/2009/03/05/>  
[http://www.enotes.com/topic/Library\\_catalog](http://www.enotes.com/topic/Library_catalog)  
[http://skuastkashmir.ac.in/index.php?option=com\\_content&view=article&id](http://skuastkashmir.ac.in/index.php?option=com_content&view=article&id)

## Unit 8: Cataloguing

### CONTENTS

- Objectives
- Introduction
- 8.1 Types of Catalogue
- 8.2 The Alphabetical — Classified Catalogue
- 8.3 Card Book Catalogue
- 8.4 Computerized and Online (OPAC) Catalogues
- 8.5 Summary
- 8.6 Keywords
- 8.7 Review Questions
- 8.8 Further Readings

### Objectives

After studying this unit, you will be able to:

- Discuss the types of catalogue
- Discuss about card book catalogue
- Elucidate the computerized and online (OPAC) catalogues.

### Introduction

Cataloguing is the method used to create an index to your collection. It tells you what you have and where to find it. The catalog describes each title and attaches it to the classification shelf location assigned to it. If what you have now is just a “room full of books”, the most important thing you have to do to turn it into a library is to catalog it. Every title in your library will have a record in the catalog. They are: 1. The Description, 2. The Subject Headings 3. The shelf location.

The word catalogue has been derived from the Greek phrases “Kara logos”. Kat means by or according to and “logos” means order or reason. Hence catalogue means a work in which contents are arranged in a reasonable way according to a set plan.

There are certain factor title which determines the library cataloguing. In present unit, we will discuss classified, computerized and online catalogues in detail.

### 8.1 Types of Catalogue

There are two types of Catalogue:

1. Classified Catalogue
2. Dictionary Catalogue

#### **1. Classified Catalogue**

Classified catalogue is a subject catalogue in which the entries are arranged by some recognized system of classification symbol, the notation. The arrangement of catalogue entries follows the classification scheme adopted in a library. In the main entry card there must be the call number of a book. The call number indicates the subject treated in a book. In the arrangement of catalogue entries in a classified catalogue, the name of the author or the heading is ignored and the main entries are arranged according to the call numbers of the books as noted in the main entries. Thus, the main entries will be arranged according to subject fields of the books. So, basically, classified catalogue is a subject catalogue.

## Notes

The classified catalogue should be composed of three separate parts or files, although strictly speaking the subject file or the classified file is in itself the classified catalogue proper. The three parts are:

- (a) **Subject of classified file or classified catalogue proper.** It is usually arranged according to classification scheme followed in the library. The arrangement of entries is determined by the call number of the books or the notation marked in the catalogue entry, both for main entries and added entries.
- (b) **Author-title files or alphabetical author index.** The index entries are prepared under the names of the authors or the titles as the case may be and arranged in the alphabetical order. Every entry should bear the call number of the book to locate the main entry.
- (c) **Subject file or alphabetical subject index.** The index entries are made under specific subject heading in natural verbal language and arranged in alphabetical order.

## Advantages

- (i) The main entries are arranged systematically and logically.
- (ii) The respective fields of subjects can be seen in the catalogue, because the subjects are arranged one after another and the allied and related subjects are placed in close proximity.
- (iii) The forms of literature are arranged in one place.
- (iv) It has both arrangements, classified in the main file or the classified file, and alphabetical in the author index and subject index.
- (v) It is very helpful to subject approach.

## Disadvantages

- (i) Readers may have psychological aversion to this kind of catalogue considering its complicated character.
- (ii) It will take more time to find a particular entry in a large library.
- (iii) It does not supplement the order of arrangement of books on the shelves.
- (iv) Subjects not enumerated in the classification scheme may not be available easily in the catalogue.

## 2. Dictionary Catalogue

The catalogue entries are arranged under the headings that consist of author, subject, title, services etc. According to CCC a dictionary catalogue is "a catalogue which all the entries are word entries". This is usable as a dictionary.

### Advantages

- (i) Easy for consultation.
- (ii) The subject headings can be assigned in accordance with reader's terminology.
- (iii) Specific subject headings provide such reference.
- (iv) It provides all possible ways of readers approach.

### Limitations

- (i) Related topics cannot be brought together.
- (ii) The reference and cross references confuse the readers.
- (iii) This creates complexity as the catalogue grows.

## 8.2 The Alphabetical—Classified Catalogue

Notes

The General Alphabetical Catalogue (GAC) of books represents the main part of NLR reference, incorporating catalogues of books, periodicals and serials, graphic and cartographic publications, standards and other technical documents, author's published in Russian, Ukrainian, Byelorussian, and in foreign European languages. The General Authors/Titles catalogue contains bibliographic entries for books in the main Library collection, including those appearing in special catalogues (in the Central Reference Library, "Rossica" and "Polygraphy" collections, Art Prints and National Literature).

The GAC is currently converted to electronic form by card scanning with subsequent conversion to text- and machine-readable catalogue formats. Library users can access the scanned GAC by searching the local network. The Library also provides a GAC copy on microfiche.

Russian books published from 1980 also appear in the NLR electronic catalogue providing access by individual authors and corporate body names, titles, subject headings and some other access points.

### General Alphabetical Catalogue

From 1725 to the present time General Alphabetical Catalogue, contains bibliographic records for books, periodicals and serials, graphic and cartographic publications, technical standards and other technical documents, author's abstracts of dissertations. The catalogue includes some records of books that are not in the Library, with the cards marked by "Desiderat..." Early-printed and Slavonic-script books, Braille, music, maps (sheet) and newspapers are excluded.

## 8.3 Card Book Catalogue

It is a catalogue in book or loose-leaf form. If it is in loose form extra leaves can be mounted as and when required. In book form also there are provisions for adding new leaves. Entries are prepared in strips of paper and pasted on leaves.

### Advantages

- (i) New additions of entries can be made
- (ii) Withdrawal of entries is possible
- (iii) It is portable and convenient.

### Disadvantages

- (i) Pages easily get folded when used
- (ii) More chances for wear and tear.
- (iii) Difficult to multiply the copy.


## 8.4 Computerized and Online (OPAC) Catalogues



Notes

### OPAC( Online Public Access Catalogue)

Through this catalogue one can search the Library database to know the status of the Library Book. The Library offers computerized Catalogue Search Services through the OPAC (Online Public Access Catalogue) interface of the VOLKS. The bibliographic records of more than 24,974 books available in the Central Library can be searched through this interface.



*Notes* The Library OPAC can search on following elements of bibliographic records:  
1. Author Catalogue 2. Title Catalogue and 3. Subject Catalogue


### Reserving System for the Books

Library users can reserve a book currently out on Issue through Library OPAC. Notifications for availability of books are delivered to the message box of the user in the Library Software.

- (i) **Web-based Access to the Library OPAC**
- (ii) **Libby's Windows Client Access to the Library OPAC**

The Library OPAC can be accessed most effectively using Libsys Windows Client. Follow the steps given below to download and install Libsys Windows Client on your PC:

- (a) Right-Click the mouse while pointing at the self-extracting "Libsys Windows Client";
- (b) Select "Save Target As" option from the menu;
- (c) Save the "Libsys Windows Client" on your system in a temporary directory;
- (d) Exit from your Internet Browser and click at the self-extracting "Libsys Windows Client";
- (e) Unzip "Libsys Windows Client" in a directory preferably named "libsys" or "info". Self-extracting "libsys.exe" file is password protected. The password is "libsys";
- (f) Locate file named "lsclient.exe" in the folder "libsys" or "info" from the files that you have just extracted;
- (g) Right-Click the mouse while pointing at "lsclient.exe" and select "Creat Shortcut". You would notice an additional file named "Shortcut to lsclient.exe";
- (h) Move this file to the desktop; Right-Click the mouse while pointing at "Shortcut to lsclient.exe" file that you have just moved to the desktop and select "properties";
- (i) Click at the tab "shortcut" on the top. You would notice "C:\info\lsclient.exe" written in the "Target". Add "iit-lib 7001 0 PA" or "10.116.2.15 7001 0 PA" at the end providing a single space after "lsclient.exe". Click at "OK";
- (j) Add the following line at the end of your "hosts" file in "Windows" directory. 10.116.2.15  
it-lib # libsys OPAC.
- (k) Your "Libsys Windows Client" is now ready to search Online Library Catalogue for you.



*Task* Write down the benefits and uses of the different types of catalogue.

### Self Assessment

Fill in the blanks:

- 1. .... is a catalogue in book or loose-leaf form.
- 2. The library offers computerized catalogue search services through the ..... interface of the VOLKS.
- 3. There are ..... types of catalogue in cataloguing theory.

## 8.5 Summary

Notes

- The General Alphabetical Catalogue (GAC) of books represents the main part of NLR reference, incorporating catalogues of books, periodicals and serials, graphic and cartographic publications, standards and other technical documents, author's published in Russian, Ukrainian, Byelorussian, and in foreign European languages.
- From 1725 to the present time General Alphabetical Catalogue, Contains bibliographic records for books, periodicals and serials, graphic and cartographic publications, technical standards and other technical documents, author's abstracts of dissertations.
- The Library offers computerized Catalogue Search Services through the OPAC (Online Public Access Catalogue) interface of the VOLKS. The bibliographic records of more than 24,974 books available in the Central Library can be searched through this interface.

## 8.6 Keywords

**Complexity** : Consisting of many different and connected parts or complex part.

**Corporate** : Relating to a large company or group.

**Interface** : A point where two things meet and interact.

## 8.7 Review Questions

1. Write a paragraph on the alphabetical-classified catalogue.
2. What is meant by card book catalogue? Discuss its advantages and disadvantages.
3. What is computerized and (OPAC) catalogues in cataloguing theory? Discuss briefly.
4. What are the two types of catalogue in cataloguing theory?

## Answers : Self Assessment

1. Card book catalogue
2. OPAC
3. 2

## 8.8 Further Readings



Books

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences,

*The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



Online links

<http://publications.drdo.gov.in/gsdll/collect/dbit/import/v18/dbit1805003>

<http://collections.infocollections.org/ukedu/en/d/Jg28doe/10.2.html#Jg28>



## Unit 9: Filing of Entries

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- Objectives
- Introduction
- 9.1 Filing of Entries
- 9.2 Arrangement of Entries of Dictionary and Classified Catalogue
- 9.3 Descriptive Cataloguing
- 9.4 Summary
- 9.5 Keywords
- 9.6 Review Questions
- 9.7 Further Readings

### Objectives

After studying this unit, you will be able to:

- State briefly about the filing of entries
- Discuss the arrangement of entries of dictionary and classified catalogue
- Elaborate the descriptive cataloguing.

### Introduction

The “library filing system” they usually refer to the Dewey Decimal System. The other forms of library filing system are the alpha numeric filing system or other filing systems are provided by a software organizer. The basic information about library filing system was given by a web designer who used to help people with web hosting reviews and Internet marketing as well.

The ownership of this system of library classification is called the Dewey Decimal System. It tries to organize books into ten different classes. Each class has varied subcategories with 10 subdivisions each. The ten classifications are (a) computer science, information and general works, (b) philosophy and psychology, (c) religion, (d) social sciences, (e) language, (f) science, (g) technology/applied sciences, (h) arts and recreation, (i) literature, (j) history, geography and biography.

Another form of library filing system that is used to organize records, books and reference materials with a systematic method of retrieval and access of records is called the alphanumerical filing system.



*Notes* Library filing system is a combination of alphabetical filing and numerical filing.

The library software is also an important tool in library filing system. This permits the school to have a clear organization and as a result, students have more access to books where they are interested in. Library software can help the library as it checks the current inventory of books. It can also encode what types of books that are required by instructors and once they are stored in the Library Organizer, the school can determine what books they should actually purchase. The Library Organizer can also pinpoint what amongst the current books are missing or have been in the overdue list and they can ask for it back or replace them all together. The library organizer can also update the current books that the school requires and forward them to the school’s donor’s list.

## 9.1 Filing of Entries

Notes

“The essence of library catalogue is arrangement of entries.” Below is a list of all the entries in a custom collateral library. Any change in custom collateral library may be done in this area. Changes cannot be done in the standard collateral library entries. To create a modified version of a standard entry, one must copy the standard text into a new custom entry. To add a new collateral entry in a library, select and add a new entry to library at the bottom of the page. This will add an entry to the library, not to the current filing.



*Did u know?* To edit a selection from the collateral library, select “EDIT” next to the appropriate collateral entry. To delete an entry from the collateral library, select “DELETE” next to the appropriate collateral entry. This will not delete any entire that has been added to the current filing.

## 9.2 Arrangement of Entries of Dictionary and Classified Catalogue

The following “rules, based on those found in chi fourth edition of Cutter’s “Rules for, a dictionary catalogue,” have been compiled for the use of assistants in the Carnegie Library of Pittsburgh. They apply to the filing of printed cards, the form used in all the card catalogues of this Library.

No attempt has been made to set forth or defend any rules of entry followed in cataloguing; these rules for arrangement presuppose the acceptance of certain catalogue entries which are followed in this Library. Rules which do not necessitate any deviation from the strictly alphabetical order are not given. For example, no statement is made about the filing of names differing but slightly in spelling, as Green and Greene, Brown and Browne, etc., because they are filed alphabetically in two files as spelled. Some aids have been untrained assistant, such as the entries for articles in foreign languages. The alphabetical rather than the logical arrangement have been adopted to facilitate quick reference.

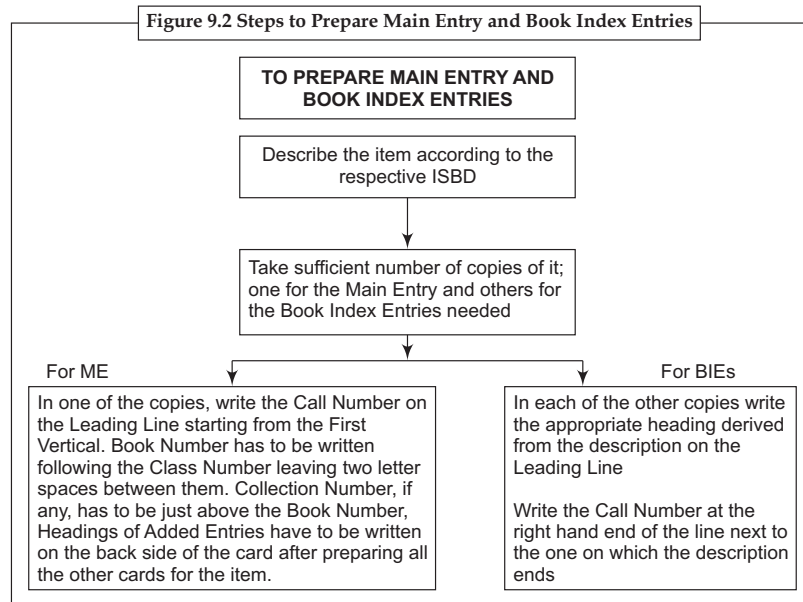
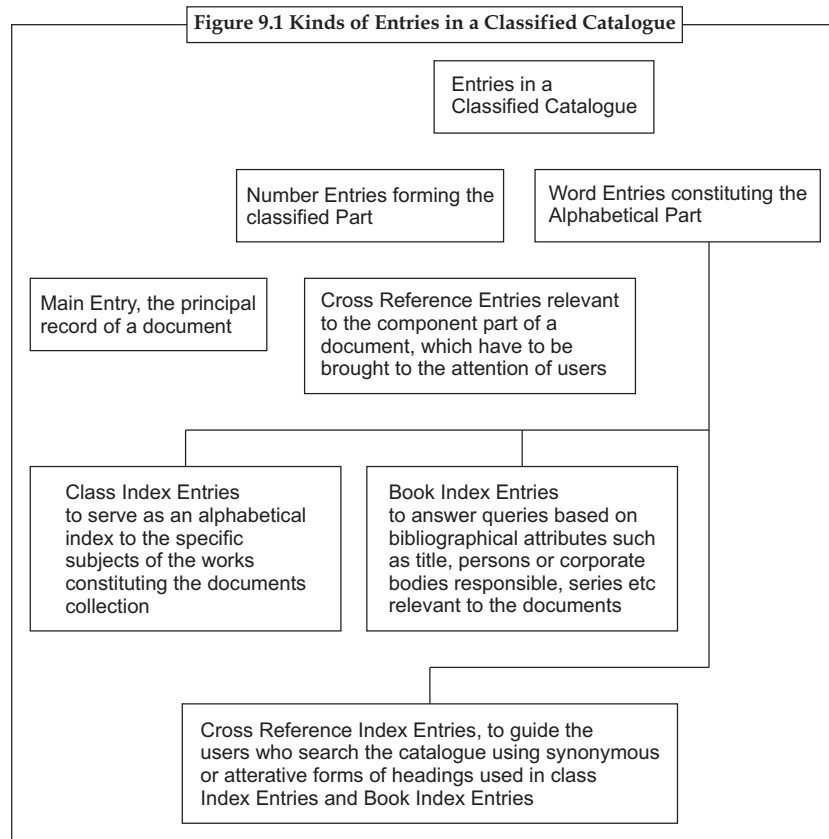
(i) **Classified Catalogue:** The library schools in India have been training students in compiling both Classified Catalogue and Dictionary Catalogue using the Classified Catalogue Code (CCC) and the AACR2 respectively. This practice has led to the conviction even among a large majority of the professionals that no Classified Catalogue can be constructed applying the rules of AACR2. Some library schools today have done away with the practice of a Classified Catalogue on the ground that rules in CCC have lost their relevance in the context of computerized catalogues. But the theoretical foundation of cataloguing that Ranganathan has formulated still holds good in an automated catalogue as well. A great impact of the scientific basis that Ranganathan has laid down can be seen in the FRBR model it self and the amendments made from time to time in the rules for choice and rendering of access points in the various revisions of AACR2. It therefore becomes inevitable to perpetuate the Normative Principles so that the tools and techniques that we develop would have a sound theoretical foundation, which can further be improved applying the scientific method.

(ii) **The Proposed Model of a Classified Catalogue:** The proposed model includes the kinds of entries in a Classified Catalogue, the content and format of each entry and the conventions used in respect of style of recording. A few Illustrative examples as per the model are given as appendix.

(a) **Kinds of Entries:** The entries in a Classified Catalogue would be of two types: number entries and word entries. The latter actually serve as alphabetical index to the former.

(b) **Main Entry and Book Index Entries:** The flow diagram (figure 9.2) gives the procedure to prepare the Main Entry (ME) and Book Index Entries (BIE) using the unit card system.

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- (c) **Class Index Entries:** Class Index Entries (CIE) is to serve as alphabetical index to the Class Numbers representing the 'works'. A CIE has to consist of three sections, namely, Leading Section, Second Section and Index Number. Alphabetical subject headings derived from the Class Number, applying Chain Procedure have to occupy the Leading Section. A directing statement "For documents in this Class and its Subdivisions see the Classified Part of the catalogue under the Class Number" has to be the content of Second Section. The Class Number denoting the heading written in the Leading Section shall be the Index Number.

- (d) **Cross Reference Index Entries (CRIE):** CRIEs have three sections: Leading Section, Second Section and Referred to Heading. The alternative form of the heading to which the entry refers, that is the Referred from Heading, is to be in the Leading Section. The Second Section is to contain the directing statement 'See' or 'See also' as per the context. The Referred to Heading will be the Heading of the CIE or BIE to which the searcher is directed.
- (e) **Class Reference Entries (CRE):** CREs is Class Number entries referring to some portion of an item, for which the cataloguer anticipates specific enquiries from the part of users. CRE can be prepared by writing the Class Number of the topic from which the cross reference is made and the directing element 'See also' in two separate lines in a copy of the Main Entry. There can be more than one CREs for an item catalogued.
- (f) **Conventions on Style of Writing:** The Heading of a BIE may have more than one component such as an Entry Element, Secondary Element, Individualizing Elements and Descriptive Elements and they have to be shown distinctly. Further, there is the possibility of more than one block such as an organ of a corporate body in the heading. Therefore, the typographical style prescribed in the Part E of the CCC would be the best option. Changes in Call Number of a document may have to be effected in the light of revision of classification scheme used or anticipating better use of the item by users. In the light of these, the following conventions are recommended.

### 9.3 Descriptive Cataloguing

The National Library of Greece (Ethnike Bibliothikes Ellados) is one of the richest depositories of Byzantine musical manuscripts and is surpassed by its holdings in Greece only by the multitude of manuscripts found in the monasteries of Mount Athos. In spite of being such a rich archive, the National Library has never published a catalogue of its musical manuscripts - not all of which are Byzantine or Greek. It is the purpose of this catalogue to recover or, in some instances, to present for the first time the repertory of the musical sources of the library.

This project has been twelve years in the making for Professor Diane Uliatos, involving the discovery and detailed cataloguing of all 241 Western, Ancient Greek, and Byzantine music manuscripts. Not all of these are from Athens or modern Greece, but also encompass Turkey, the Balkans, Italy, Cyprus, and parts of Western Europe. This variety underlines the importance of the catalogue for identifying composers, music and performance practice of different locales. The catalogue includes a detailed listing of the contents as written in the original language as well as the titles of compositions (and/or incipits) with composers, modal signatures, other attributions and information on performance practice. Each manuscript entry includes a commentary in English indicating important highlights and its significance. There is a substantive English checklist that summarizes the contents of each manuscript for non-Greek readers. A bibliography follows containing pertinent citations where the manuscript has been used in references. There is also a glossary that defines terms for the non-specialist. Examples of some of the manuscripts will be photographically displayed.



*Task* Write a short note on descriptive cataloguing.

### Self Assessment

Fill in the blanks:

1. The ownership library filing system of library classification is called the .....
2. The library software is also an important tool in .....
3. A CIE has to consist of three sections, namely, Leading Section, Second Section and .....
4. Cross Reference Index Entries (CRIE) have three sections: Leading Section, Second Section and .....

## 9.4 Summary

- The “library filing system” they usually refer to the Dewey Decimal System. The other forms of library filing system are the alpha numeric filing system or other filing systems are provided by a software organizer.
- The library schools in India have been training students in compiling both Classified Catalogue and Dictionary Catalogue using the Classified Catalogue Code (CCC) and the AACR2 respectively.
- The National Library of Greece (Ethnike Bibliothiketes Ellados) is one of the richest depositories of Byzantine musical manuscripts and is surpassed by its holdings in Greece only by the multitude of manuscripts found in the monasteries of Mount Athos.

## 9.5 Keywords

*Applying* : To bring into nearness or contact with something.

*Dictionary* : A reference book containing an alphabetical list of words, with information given for each word, usually including meaning, pronunciation, and etymology.

*Formulated* : To state as or reduce to a formula.

## 9.6 Review Questions

1. What do you mean by filing of entries in cataloguing theory?
2. Explain briefly about the arrangement of entries of dictionary and classified catalogue.
3. Write a paragraph on descriptive cataloguing.

## **Answers : Self Assessment**

1. Dewey Decimal System
2. Library Filing System
3. Index Number
4. Referred to Heading

## 9.7 Further Readings



*Books*

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't* The New York Times.

Chan, Lois Mai. *Cataloging and Classification: An Introduction*, second ed. New York: McGraw-Hill,



*Online links*

<http://matthewrestivo.com/library-filing-systems.php>

[http://skuastkashmir.ac.in/index.php?option=com\\_content&view=article&id](http://skuastkashmir.ac.in/index.php?option=com_content&view=article&id)

## Unit 10: Current Trends in Standardization

Notes

### CONTENTS

- Objectives
- Introduction
- 10.1 Description and Exchange (ISBD, CCF, MARC)
- 10.2 Summary
- 10.3 Keywords
- 10.4 Review Questions
- 10.5 Further Readings

### Objectives

After studying this unit, you will be able to:

- Explain the current trends in standardization of public library
- Describe the meaning of ISBD, CCF, MARC.

### Introduction

Public library reference services are in the midst of the most revolutionary change in their history. The new technologies have arrived. Even as recently as five years ago, the only “machines” reference librarians commonly housed in their reference departments and used on a day-to-day basis were 35 mm microfilm readers for back files of news papers and magazines. Today terminals and fiche readers, printers and CRTs, COM catalogs and database searching, on-line catalogs and on-line access to bibliographic utilities are seen in most of the public library reference departments in the country. Integration and use of the equipment and the vast resources it makes available have significant implications for staffing, training, budgets, public relations, indeed for all aspects of public library reference service.’

Other current trends in public library reference service of importance are budget constraints in the public sector; adapting to a greater percentage of growth than circulation services are experiencing; use, training, and supervision of paraprofessionals; centralized dispersed organization of reference service, including adult and children’s, subject specialties, physical locations, networks; participation in management of reference service (the “professional bureaucracy”); and more realistic attempts at measurement and evaluation of reference service.

- (i) **Database Searching:** Next to the mechanization of the library’s catalogue, the mechanization of reference sources generally, *e.g.*, on-line databases is the most significant trend in public library reference work. Many public libraries are just beginning database searching and still treat it as a “special service,” often a fee-based service. Frequently only one or two librarians on a large reference staff will actually do the searching and only “in-depth,” or more extensive searches are done by this method. However, some public libraries have as their goal, fully-integrated database searching. In these libraries, all reference librarians are expected to be proficient searchers and to use the most cost-effective way to find information regardless of format. The decision to use an on line search must be the reference librarian’s, not the patron’s; therefore, fees cannot be directly passed on to the user. Librarians do brief searches when appropriate as part of their regular reference duty “while the user waits.” Longer or more specialized searches may be done as time permits or by reference librarians with greater knowledge and experience of particular databases.

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- (ii) **Budget Restraints, Increased Service, and Use of Nonprofessionals:** This on line revolution in public library reference service has, therefore, significant budget implications at a time when public library budgets have not kept pace with inflation. And, at the same time, public library reference service has continued to increase dramatically. While circulation statistics for public libraries across the country have stabilized, annual increases of 5, 10, or 15 percent in reference transactions have been reported by many public libraries. The results are heavier work loads with fewer human and materials resources. While public administrators talk about “increased productivity,” public services professionals have workshops on “stress” and “burn-out.” Services which patrons and reference librarians took for granted may now be fee-based such as charging for reserving books which are out, charges for interlibrary loan, loan of audio-visual materials, information searches—or may even no longer be available.
- (iii) **Organization of Reference Services:** Another trend in public library reference service which may be receiving increased impetus from budget cuts is greater centralization of reference services. Libraries which can be kept open with one professional generalist who gives service to all ages in all subject areas have a very different minimum budget level than libraries which need four subject specialists and a children’s specialist in residence before they can open the door.
- (iv) **Governance of Reference Service:** The idea of the reference generalist is compatible with another trend in public library reference work: the dispersal of management functions throughout the professional staff. Every reference librarian is not only a professional generalist but also a manager. For organization of reference service, this appears to be the next step leading to participatory management. Once all librarians are equally involved in working out group decisions, they logically become equally involved in seeing that those decisions are carried out. In a tight job market, where librarians may stay in the same job for a longer time, this is a good staff development technique: learning organization, planning, and/or supervision by managing one aspect of reference service. Some discrete units of reference management which can be decentralized are coordination of reference materials selection; scheduling the public service desk; budgeting and training for database searching; serving as training coordinator; making liaisons with various departments and working on committees both within and outside the library system.
- (v) **Measurement of Reference Service:** A final significant trend in public library reference service is the increased standardization in the measurement and evaluation of reference service.” Agreement on definitions of measureable units through the work of the ANSI (American National Standards Institute) 2-39 committee and the Reference Statistics Committee of LAMA-ALA (Library Management Association of ALA) has been an important basic step for all reference librarians.” the Reference Services Guidelines developed by the Reference Standards Committee of RASD (Reference and Adult Services Division) are another important base for current work in measurement and evaluation of reference services. Public library performance measures development has given a special impetus to measuring reference service in public libraries. Some promising new research has been reported in the last few years—particularly with nonverbal behaviour and with queuing which may lead to more sophisticated evaluation in the future. In the meantime public libraries can begin to compare some of their own reference measures to those of other public libraries.

## 10.1 Description and Exchange (ISBD, CCF, MARC)

### (a) ISBD

The ISBDs have today been accepted as the universal standard for describing documents of all types in bibliographical databases and therefore the corresponding rules in the CCC which were framed for a hand written card catalogue have lost their relevance. But the philosophical and theoretical bases of the CCC and the rules relating to headings have no parallels in the AACR2 or



in other catalogue codes. Had the CCC been revised during the 1970s replacing rules for description with the ISBDs and updating the other rules properly it would have been a great boon to modern cataloguing.

- (i) **Literature Review:** ISBD attempts to cover a range of bibliographic activities and includes elements common to one or more (ISBD (G) 1992). National bibliographic agencies create records for publications issued in each country, using ISBD as a guide.



*Did u know?* ISBD is used to describe complete or perfect copies of material (ISBD for Older Monographic Publications, 2004).

Other cataloguing agencies have more choice in description, although they are still bound by ISBD's prescribed order and punctuation. Factors such as name headings, subject information, and uniform titles, and so on, are not included in ISBD, but may be included in cataloguing codes (Hargler, 1991).

- (ii) **The Problem:** A continuing information explosion has driven some authors to patronize these publishers who do not meet the standards of ISBD. Some Nigerian publishers do not observe basic ISBD requirements, and the title pages of many publications are either missing or are lack basic information.

### (b) Common Communication Format (CCF)

The Unesco Common Communication Format (CCF) is described in the context of other exchange formats. A definition is given of 'exchange format', and the CCF is compared against this definition. The history of its development is outlined and its major technical features are summarized. Examples are given of the ways in which it is being used and is likely to be used in the future, and a number of implementation manuals are mentioned which have been developed to assist in its use.

### (c) MACHINE-READABLE CATALOGING (MARC)

This document provides references to the use of SGML / XML in bibliographic data management based upon MARC formats. It also has references some generalized approaches to markup-based bibliographic database management and citation generation.

MARC refers to a suite of related standards (USMARC, Can/MARC, Inter MARC, UKMARC, CCF, etc.) used for bibliographic control within the library science and digital libraries' communities. 'MARC' is based upon ISO 2709:1996, Format for Information Exchange (INEX). 'USMARC' is based on ANSI Z39.2, American National Standard for Bibliographic Information Interchange. Conversion from MARC to SGML/XML (and the reverse) has been addressed in several different efforts.



*Notes* "The MARC formats are standards for the representation and communication of bibliographic and related information in machine-readable form.

A USMARC record involves three elements: the record structure, the content designation, and the data content of the record. A USMARC format is a set of codes and content designators defined for encoding machine-readable records. The Formats are five types of data: bibliographic, holdings, authority, classification, and community information.



*Task* Do you think database searching and budget restraints are the most significant trends in the public library reference work. Justify your answer.

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## Self Assessment

State whether the following statements are true or false:

1. National bibliographic agencies create records for publications issued in each country, using ISBD as a guide.
2. A USMARC format is a set of codes and content designators defined for encoding machine-readable records.
3. MARC means Machine Access Readable Catalogue.
4. MARC is based on upon ISO 2709: 1996, format for Information Exchange (INEX).

## 10.2 Summary

- Today terminals and fiche readers, printers and CRTs, COM catalogs and database searching, on-line catalogs and on-line access to bibliographic utilities are seen in most of the public library reference departments in the country.
- The ISBDs have today been accepted as the universal standard for describing documents of all types in bibliographical databases and therefore the corresponding rules in the CCC which were framed for a hand written card catalogue have lost their relevance.
- This document provides references to the use of SGML/XML in bibliographic data management based upon MARC formats. It also has references some generalized approaches to markup-based bibliographic database management and citation generation.

## 10.3 Keywords

*Dramatically* : Relating to drama, exciting or impressive.

*Decentralized* : Transfer from central to local government.

*Updating* : Making more modern, changing version.

## 10.4 Review Questions

1. Write a paragraph on Database Searching.
2. Discuss the current trends in standardization.
3. Write a short note on ISBD.

## Answers: Self Assessment

1. True
2. True
3. False
4. True

## 10.5 Further Readings



Books

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences, *The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



Online links

<http://www.ifap.ru/library/book264.pdf>

<http://unesdoc.unesco.org/images/0008/000806/080626eb.pdf>

# Unit 11: History and Development of Library Catalogue Codes

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## Objectives

After studying this unit, you will be able to:

- Define Catalogue code
- Discuss development of Catalogue code.

## Introduction

The history of catalogues reveals that early catalogues were based on tradition inherited from individual libraries. Since the catalogues were prepared to serve as inventory lists, the other functions of catalogue were not taken into consideration. The growth of the collection, the increase in the number of users, the variety of approaches of the users and the need for standardization necessitated framing a set of rules for cataloguing.

### 11.1 Catalogue Code

Catalogue code means “a set of rules with defined terminology designed for cataloguing purposes”. The catalogue code and rules guide the cataloguer as to how the entries for books are to be prepared.

### 11.2 Development of Catalogue Codes

Reviews the historical development of basic concepts in descriptive cataloguing provides an analytical overview of selected cataloguing codes affecting the evolution of cataloguing principles. The main purpose is to explore the basic concepts underlying different codes of cataloguing rules

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and to provide an understanding of how these codes have developed in accordance with forms of the catalogue. An understanding of the historical development of modern cataloguing codes and the evolutionary growth of catalogues are both essential to an understanding of the relevance of cataloguing codes to the new electronic environment.

## Developments in the Nineteenth Century

The nineteenth century has been characterized as the formative era of modern catalogues and cataloguing codes. It was a time that revealed a keen interest in catalogues and the involvement of individual libraries and librarians in the compilation of cataloguing codes. The transformation of library cataloguing to its present form occurred in the nineteenth century, when it was argued that simple author access was not enough and that a different, more sophisticated, and more elaborate approach was needed.

Although the printed book catalogue was widely in use throughout the nineteenth century, the slip catalogue which was primarily created for the preparation of the printed book catalogue, was gradually found to be more flexible and more suitable. Book catalogues, which were found to be inflexible and in need of constant updating and reprinting, grew less popular in a short space of time. In addition, the limited number of access points per entry was a major disadvantage of book catalogues. By the end of the nineteenth century the printed card catalogue, although not in a standard form, became the alternative to the printed book catalogue and its use became widespread in the twentieth century throughout the United States as well as in many other countries .

The two most common catalogue forms in the nineteenth century were the classified catalogue and the alphabetical catalogue. The classed or classified catalogue, which was a type of subject catalogue depending on a systematic classification, was used in many British, French and American libraries.



*Notes* In classified catalogue, entries were arranged in a systematic order to group together books with subject proximity.

Authors and titles made up accompanying alphabetical indexes. Although the classified catalogue continued its development during the nineteenth century, the difficulties of maintaining it limited its application to a relatively small number of libraries. On the other hand, a major reason for the development of the alphabetical catalogue lies in the fact that alphabetical order has long been common knowledge and best suited for finding items in the catalogue. Most cataloguing codes developed by individuals or national agencies in modern times have been formulated for alphabetical catalogues rather than classified catalogues.

The nineteenth century was a time when the objectives of the catalogue became more clearly defined. As library catalogues had to be developed in accordance with the users' needs, a first step was to clarify the functions of the catalogue. Thus an essential principle on which rules for entries had to be based was the formulation of objectives for the catalogue.

The concept of one full record per book (*i.e.*, one 'main entry' for the publication described) which was dominant in classified and alphabetical catalogues evolved into multiple entries in the dictionary catalogue. Although the dictionary catalogue had been first introduced by Andrew Maunsell in 1595 in the form of a simple list including authors, added entries (*e.g.*, for translators), and subjects in a single alphabetical sequence, it had its flourishing in the nineteenth century, particularly through the works of Charles Ammi Cutter.

Since the middle of the 19th century, a number of catalogue codes had developed. Each code was prepared to improve the preceding code. Some of the important catalogue codes are:

1. The British Museum code

2. Charles Jewett's code
3. Charles Ammi Cutter's code
4. The Prussian Instructions
5. Anglo American code
6. Vatican code
7. ALA catalogue rules
8. International Conference on Cataloguing Principles (ICCP) 1961
9. AACR I
10. American Library Association Rules
11. Classified catalogue code
12. ISBD
13. AACR II

### 11.2.1 The British Museum Code

Rules for compiling the catalogue of printed books, maps and music in British Museum. This code was drawn by Anthoni Panizzi, the principal Librarian of the British Museum Library.



*Did u know?* The British Museum code was printed in 1841 with a set of 41 rules formed the basis for compilation of the British Museum catalogues.

There were many editions, the latest being that of 1936, reprinted in 1948 and 1951. The 91 rules were reduced to 41. Some of the features of this code are:

1. The code has provision only for author entry
2. It gives importance to the information found in the title page
3. It occasionally prescribes the form headings in the main entry. For example (a). Universities and learned societies are rendered under the heading ACADEMIES, (b). Magazines, news papers, and annuals are rendered under PERIODICAL PUBLICATIONS.

### 11.2.2 Charles Jewett's Code

Prof. Charles Jewett, an American was greatly influenced by Panzer's code. In 1852 he published the code of 39 rules under the title "Smithsonian report on the construction of catalogues of libraries and their publications by means of separate stereotyped titles with rules and examples". Jewett provided examples and model subject index entries.

### 11.2.3 Charles Ammi Cutter's Code (Rules for a Dictionary Catalogue)

In 1876, C.A. Cutter published his 205 rules under the title "rules for a printed dictionary catalogue". The fourth edition was published in 1904 with 369 rules covering rules for authors, title entry, form entry, alphabetical subject entry and the filing methods. His arguments and principles are based on sound knowledge, experience and pragmatic approaches.

### 11.2.4 The Prussian Instructions

Prof. Karl Dziatzko, a philosopher and University Librarian in Germany published Prussian instructions in 1886. It was translated into English by an American Librarian K. A. Linderfelt in 1890. Some of the features of Prussian Instructions are:

1. It is not merely theoretical but consists of carefully thoughtout rules based on practical experiences.
2. Wording throughout is clear and unambiguous.

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### **11.2.5 Anglo American Code, 1908: (A A Code)**

At the beginning of the 19th century, the Library Associations, of the United Kingdom and the United States took up research in Cataloguing. Melvil Dewey suggested that the two associations must unite to establish a uniform catalogue code use in the English speaking countries. As a result, the AA code was published both English and American editions in 1908. The code laid stress to meet the requirements larger libraries.

### **11.2.6 Vatican Code: 1931**

In 1927, the Vatican library compiled a catalogue code, "rules for the catalogue of printed books" and published in 1931. It is a dictionary catalogue.

### **11.2.7 ALA Cataloguing Rules**

The AA code was under severe criticism. The committees of the American Library Association, Library Association (Great Britain) started the work of revision. American library association produced a draft code in two parts in 1941. (Part I Entry and; headings and Part II Description of the book). The part II was deferred and the revision of Part I was published in 1949 under the title "ALA cataloguing rules: Author and title entries". The rules are more detailed.

### **11.2.8 International Conference on Cataloguing Principles (ICCP) 1961**

The ICCP 1961 was held to establish international agreement on important aspects of different types of cataloguing practices. Delegates from all parts of the world attended the conference.

### **11.2.9 AACR I**

This code was published in 1967 in two editions:

1. The North American Edition and
2. The British edition.

The code was prepared by ALA, the Library of Congress, the Library Association and Canadian Library Association. The salient features of this code are:

1. The rules were formulated primarily to meet the requirements of general research libraries.
2. Emphasis was laid on providing direct headings.
3. The code covers books and non book materials.
4. Sufficient number of entries and references are provided to satisfy the various approaches of readers.
5. The rules are based on statement of principles adopted by the ICCP 1961.

## **Developments in the Twentieth Century**

Cataloguing in the second half of the nineteenth century was characterized by the compilation of a great number of codes which followed more or less the same trend in establishing principles for the construction of library catalogues. There was agreement on a number of general principles, particularly entry under author.

In the twentieth century, a number of significant factors have affected libraries in their operations and practices, including descriptive cataloguing. These factors are: the steady growth in the number of libraries and the size of collections, as an indirect indication of social and technological change; a rapid increase in the number of publications in book and non-book form which led to the 'information explosion' in the twentieth century and the tendency to, and need for, more and closer international relations. There was a strong trend towards international cooperation and the exchange of ideas in the early twentieth century. The role of national libraries and library associations

in formulating bibliographic standards is considered to have been a significant factor in the development of cataloguing codes and the move toward national as well as international standardization. In the Anglo-American world, the move toward closer cooperation and formulation of joint codes is a clear expression of such trends in the cataloguing community.

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*Task* Explain the development of catalogue code in nineteenth and twentieth century.

## Self Assessment

Fill in the blanks:

1. .... means a set of rules with defined terminology for cataloguing purposes.
2. The two most common catalogue forms in the nineteenth century were ..... and .....
3. The British Museum code was drawn by .....
4. Prussian Instructions was translated into English by .....

State whether the following sentences are true or false:

5. The nineteenth century has been characterized as the formative era of modern catalogues and cataloguing codes.
6. Twentieth century was a time when the objectives of the catalogue became more clearly defined.
7. In the Anglo-American world, the move toward closer corporation and formulation of joint codes is a clear expression of such trends in the cataloguing community.

## 11.3 Summary

- Catalogue code means “a set of rules with defined terminology designed for cataloguing purposes”. The catalogue code and rules guide the cataloguer as to how the entries for books are to be prepared.
- The nineteenth century has been characterised as the formative era of modern catalogues and cataloguing codes. It was a time that revealed a keen interest in catalogues and the involvement of individual libraries and librarians in the compilation of cataloguing codes.
- Most cataloguing codes developed by individuals or national agencies in modern times have been formulated for alphabetical catalogues rather than classified catalogues.
- The nineteenth century was a time when the objectives of the catalogue became more clearly defined. As library catalogues had to be developed in accordance with the users' needs, a first step was to clarify the functions of the catalogue.
- In the twentieth century, a number of significant factors have affected libraries in their operations and practices, including descriptive cataloguing.

## 11.4 Keywords

- Catalogue* : Catalogue means a work in which contents are arranged in a reasonable way according to a set plan.
- Classified catalogue* : A library catalog (or classified catalogue) is a register of all bibliographic items found in a library or group of libraries, such as a network of libraries at several location.
- Cataloguing* : The process of creating entries for a catalogue.
- Catalogue code* : Catalogue code means a set of rules with defined terminology designed for cataloguing purposes.



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### **11.5 Review Questions**

1. Explain the history and development of library catalogue codes.
2. Write a brief note on British Museum code.
3. Analyze the rules for a dictionary Catalogue.

### **Answers: Self Assessment**

1. Cataloguing Code
2. Classified Catalogue, Alphabetical Catalogue
3. Anthoni Panizzi
4. K.A.L. Linderfelt
5. True
6. False
7. True

### **11.6 Further Readings**



*Books*

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't*, The New York Times.

Chan, Lois Mai. *Cataloging and Classification: An Introduction*, second ed. New York: McGraw-Hill,



*Online links*

<http://www.articlesbase.com/non-fiction-articles/>

<https://sites.google.com/site/drsarikasawant/about-me/teaching/CATT/>

## Unit 12: Normative Principles of Cataloguing

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### Objectives

After studying this unit, you will be able to:

- Explain the AACR normative principles of cataloguing
- Describe the CCC normative principles of cataloguing.

### Introduction

Normative principles are best judged for evaluating the best catalogue code. These principles guide every problem in cataloguing like drafting of a catalogue code, interpreting the rules to meet new situation, guiding for a cataloguing work. CCC has incorporated the fundamental laws and canons of cataloguing in its first parts.

This unit covers two normative principles of cataloguing: (i) AACR normative principles of cataloguing and (ii) CCC normative principles of cataloguing.

### 12.1 AACR Normative Principles of Cataloguing

In order to respond the increasing mechanization, the growth of centralized and cooperative bibliographic services and networks, introduction of a number of new media, the second edition of Anglo-American Cataloguing Rules (AACR2) emerged in 1979. It was compiled by the American Library Association, The British Library, the Canadian Committee on cataloguing, the Library Association and the Library of Congress.

#### **(i) Objectives of the AACR 2**

Following are the main objectives of the AACR 2:

- To reconcile in a single text the North American and British text of 1967.
- To incorporate in the single text all amendments and changes already agreed and implemented under the previous mechanisms.
- To provide for international interest in AACR by facilitating its use in countries other than the United States, Canada and the United Kingdom.

### **Guidelines**

Apart from the above objective, the following guidelines were also formulated.

- Particular attention to developments in the machine processing of bibliographic records.
- Maintenance of general conformity with the Paris principles of 1961, as manifested in the first edition.
- Determination of the treatment of non-book materials primarily from a consideration of the published cataloguing rules of the Canadian Library Association, the Library Association, and the Association for Educational Communications and Technology.

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- Continuance of conformity with the ISBD (M) as a basis for the bibliographic description of monographs, and commitment to the principles of standardization in the bibliographic description of all types of materials.

### (ii) Structure of the AACR 2

It consists of two parts. Part I covers rules for a standard description of all kinds of library material. Part II deals with the determination and establishment of headings, or access points in the catalogue, under which the descriptive information is to be presented to catalogue users and with the making of references to those headings.

### (iii) Levels of description

The AACR 2 code has prescribed three levels of description. First level provides the minimum information which is necessary to identify a given document. Second level description provides all the data which may be considered necessary for description of documents forming part of the main collection of medium to large libraries in the context of libraries in developed countries. The third level provides information covering every descriptive element described in the code.

- **First level of description:** Title proper/first statement of responsibility, if different from main entry. Heading in form or number or if there is no main entry heading - Edition statement - Material (or type of publication) specific details - first publishers, etc., date of publication etc. - Extent of item - Notes standard number.
- **Second level of description:** Title proper (general material designation = Parallel title: other title information/first statement of responsibility each subsequent statement of responsibility-Edition statement/first statement of responsibility relating to the edition-material (or type of publication) specific details. First place of publication, etc. First publishers. Etc., date of publication, etc. - extent of item; other physical details, dimensions. - (Title proper of series/statement of responsibility relating to series, ISSN of sub-series, numbering within the series. Title of sub series, ISSN of sub series; numbering within the series). Notes - standard number.
- **Third level of description:** For the third level of description, we have to study all elements set out in the rules.

### (iv) Study of Single Authorship

AACR2 defines a personal author as "A personal author is the person chiefly responsible for the creation of the intellectual or artistic content of a work.

AACR2 further suggest that "Enter a work, a collection of works, or selections from a work or works by one personal author (or any print, reissue, etc. of such a work) under the heading for that person whether named in the work or not. Choose, as the basis of the heading for a person, the name by which he or she is commonly known. This may be the person's real name, Pseudonym, title of nobility, nickname, initials or other appellation.

**Example:**

1. The Old Man and the Sea/by Ernest Hemingway  
Main entry under the heading for Hemingway
2. The secret garden/Hodgson Burnett  
Main entry under the headings fro Burnett
3. The poetic and dramatic works of Alfred, Lord Tennyson  
Main entry under the heading for Tennyson

## 12.2 CCC Normative Principles of Cataloguing

- (a) **Classified Catalogue Code (CCC).** The classified catalogue code consists of two parts, (i) classified part and Alphabetical part. The classified catalogue consists of two types of entries namely, Number Entries and Word Entries. In classified part, the entries are arranged according to the Call Number or Class Number of the documents. That is, each entry

begins with a Call Number or Class Number in the Leading Section. In the Alphabetical part, the entries are arranged according to the Alphabetical order. That is each entry begins with a word in the Leading section. The classified part consists of the Main entry and the Cross Reference Entry. The other entries namely the various Book Index Entries, Class Index Entries, Cross Reference Index entries etc, from the alphabetical part of classified catalogue. Rules are given at three levels. The levels are terminology, conflict of authorship and rendering of the name. The rules are based on normative principles.

The main entry is a basic record for a given document. It is a specific entry, which provides maximum information about the document. Each document gets one main entry. A main entry in CCC consists of the following sections;

- Leading Section
- Heading
- Title section
- Note section, if any
- Accession number and
- Tracing section

The leading section consists of call number of the document. The call number is always written in Pencil.

**The heading can be one of the following:**

- The name(s) of a person all authors;
- The name of a corporate author;
- The name(s) of a joint personal author and of a corporate author;
- The name(s) of joint corporate authors;
- A pseudonym or two or more pseudonyms;
- The name(s) of a collaborator(s);
- The title of document
- The title section consists of;
- The title;
- Information regarding the edition;
- Information regarding collaborator(s)

**The following is a list of kinds of notes:**

- Series note;
- Multiple series note;
- Extract note;
- Change of the title note;
- Extraction note; and
- Associated book note



*Did u know?* Accession number is a number to be taken from the book of the title page. The tracing section is given on the back of the main entry.

(b) **CCC:** In the Classified Catalogue Code, if the single person is an author, then the name of a personal author shall become the heading of a main entry. In rendering the name, the elements in the name shall be given in the following order:

Entry element, Secondary element and Individualizing element.

(i) **Study of Shared author:** Collaboration between two or more persons or bodies performing the same kind of activity in the creation of the content of an item. The contribution of each may not be separable from that of the others (AACR2).

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**For the works of shared responsibility the following rules may be applied to**

- Works produced by the collaboration of two or more persons
- Works for which different persons have prepared separate contributions.
- Works consisting of an exchange between two or more persons.
- Works resulting from a collaboration or exchange between a person and a corporate body.

If, in a work of shared responsibility, principal responsibility is attributed (by the wording or the layout of the chief source of information) to one person or corporate body, enter under the heading for that person or body. If the name of another person or corporate body appears first in the chief source of information, make an added entry under the headings for other persons or bodies involved if there are not more than two.

- (ii) **Two or three personal authors:** “If responsibility is shared between two or three persons or bodies and principle responsibility is not attributed to any of them by wording or layout, enter under the heading for the one named first. Make added entries under the headings for the other”.
- (iii) **Four personal authors:** “When a single statement of responsibility names more than three persons or corporate bodies performing the same function, or with the same degree of responsibility omit all but the first of each group of such persons or bodies. Indicate the omission by the mark of omission (...) and add et al ... in square brackets.

A work produced by the collaboration of four authors is a work of shared responsibility. If principal responsibility is not indicated, then rule 21.6C2 is applicable. According to it, “If responsibility is shared between more than three persons or corporate bodies and principle responsibility is not attributed to any one, two or three enter under title. Make an added entry under the heading for the first person or corporate body named”.

|   |
|---|
| <br><i>Task</i> Discuss briefly about the normative principles of cataloguing. |
|---|

**Self Assessment**

Fill in the blanks:

1. The second edition of Anglo-American cataloguing Rules (AACR-2) was compiled by .....
2. AACR 2 code has prescribed ..... levels of description.
3. CCC consists of two parts, that are ..... and .....
4. In alphabetical part of CCC the entries are arranged according to the ..... order.

**12.3 Summary**

- In order to respond the increasing mechanization, the growth of centralized and cooperative bibliographic services and networks, introduction of a number of new media, the second edition of Anglo-American Cataloguing Rules (AACR2) emerged in 1979.
- The classified catalogue code consists of two parts: classified part and Alphabetical part. The classified catalogue consists of two types of entries namely, Number Entries and Word Entries.
- In the Classified Catalogue Code, if the single person is an author, then the name of a personal author shall become the heading of a main entry. In rendering the name, the elements in the name shall be given in the following order: Entry element, Secondary element and Individualizing element.

## 12.4 Keywords

Notes

**Implementation** : A tool or instrument used in doing work.

**Necessary** : Absolutely essential or needed to achieve a certain result or effect.

**Context** : The circumstances in which an event occurs.

## 12.5 Review Questions

1. Write a short note on levels of description of AACR 2.
2. Describe the main objectives of the AACR normative principles of cataloguing.
3. What do you mean by study of single authorship? Give examples.

## Answers: Self Assessment

1. American Library Association
2. three
3. classified part, alphabetical part
4. alphabetical

## 12.6 Further Readings



Books

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences,

*The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



Online links

<http://publications.drdo.gov.in/gsd1/collect/dbit/index/assoc/HASHc89b.dir/>

<http://aasl.ala.org/essentiallinks/index.php?>

<http://www.rusq.org/2011/04/03/>

## Unit 13: Subject Cataloguing

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### Objectives

After studying this unit, you will be able to:

- Explain the concept of Subject cataloguing and its purpose
- Discuss Sears list of subject headings
- Elaborate the meaning of Library of Congress Subject Headings, thoroughly.

### Introduction

Subject cataloguing, is intended to embrace only that cataloguing activity which provides a verbal subject approach to materials added to library collections. It does not include classification, for that aspect of the cataloguing process is discussed elsewhere. This restriction contrasts with the common use of the term to denote the organizational unit which, in many libraries, both classifies books and establishes subject headings for them. The justification for the limitation is in part practical, since there is need for a term less awkward than “the assignment of subject headings.” It is logical in that “subject cataloguing,” as here used, refers to the determination and assignment of suitable entries for use in the subject component of a library’s catalogue.

### 13.1 Subject Cataloguing

Seymour Taine has observed that there are three themes running through the literature relating to subject headings.

They are:

1. The assertion that subject headings should be designed to meet the specific requirements of a given bibliographical function,
2. The principle that subject headings should be as specific as possible, and
3. The argument that subject catalogues, subject heading lists, and subject indexes should not attempt to be all things to all men. The rest of the literature, he says, is largely devoted to discussions of detail whether headings should be singular or plural in form, directly specific or indirectly so and how subject headings have been misused.



That the first theme which Taine mentions pertains to a definition of the function of subject headings is particularly significant. Many writings begin or end on the note that the development of theoretical principles to govern subject cataloguing techniques is our most compelling need. On the surface, the plea for a theory of subject headings appears not so much a request for principles, rather as an expression of hope that someone will work out a manual to guide subject cataloguers in the techniques of their art.

## 13.2 Sears List of Subject Headings

Subject Cataloguing is that specific procedure of cataloguing by which the cataloguer chooses the appropriate subject heading for the subject discussed in the catalogued books. Thereafter, he presents a subject-wise list of the books on the basis of the alphabetical order of these headings.

Main objective of the subject cataloguing is to fulfill the subject-related needs of the readers.



*Notes* According to M.E. Sears, “The subject catalogue tries to list less than one form of heading of all books on a given subject that the library possesses.”

Following are the different kinds of subject catalogue:

- (i) Alphabetical subject catalogue,
- (ii) Classified subject catalogue, and
- (iii) Alphanetic—classed subject catalogue.

## Subject Heading

- Subject heading is that element which gives complete indication of the subject entry. The headings of the subjects remain uniform, ordered and specific by it.
- Selection of the subjects heading is very important in formation of the subject entry.
- Need for the formation of subject heading arises for providing information of a specific subject and all its aspects, for complete reading material available in the library under the subject catalogue.

## Method of Deriving Subject Heading

Following are the two main methods of deriving a subject heading:

1. Printed list of subject headings, and
2. Chain procedure.

## List of subject headings

The meaning of the list of subject headings is to present a prior list of indicative headings of cross-references of subject-wise lists by which these can be prepared.

The cataloguer determines the subject headings on the basis of these lists of subject headings only. Subject heading lists are required for determining the cross references and to maintain uniformity and standardization in the subject headings.

Following are the standard subject heading lists used for determining the subject headings in English language:

- (i) Sears list of subject headings,
- (ii) A.L.A. List of Subject Headings for Use in Dictionary Catalogues.
- (iii) Library of congress subject headings.

Notes

### Utility of subject heading lists

- The cataloguer receives pre-prepared heading from the subject heading lists. These lists act as a dictionary or collection of subject headings.
- These lists provide guidelines to the cataloguer information of the subject headings. In other words, the cataloguer gets the benefit of the experience of many other cataloguers from these lists.
- The pre-prepared subject headings in these lists are according to the needs of the users.
- Use of these lists can establish co-ordination and uniformity in the library catalogue.

### Limitations of subject heading lists

- Enough time and effort is required in collection and printing of these lists. Moreover, separate lists have to be prepared for each language.
- This procedure of forming subject headings is not very practical as the work of preparing subject headings from these lists involves too much effort and time.
- The subject heading lists are never complete and up-to-date because new subjects are introduced every now and then. Hence, it is necessary to include these subjects in the list also.
- General subject heading lists are not useful for the specialized libraries. This is the reason for which separate subject heading lists are prepared for these libraries.

### Sears list of subject heading

This list for use in formation of subject headings was printed in the year 1923. This list was initially prepared for use in small libraries and later its scope was extended to small as well as medium size libraries. This list satisfies the requirements of small libraries. Improvements have been made in this list from time to time on the basis of the experience of the various libraries.



*Did u know?* The latest edition of, Sears List of Subject Heading was published in the year 1972.

The objective of this list is to keep the documents of a specific subject under a uniform subject heading. Other than this, those headings are also given in this list after x, xx that are used for the formation of 'see' and 'see also' subject directions.

The headings that are given under or after 'see also' can be used for selecting appropriate headings for the related documents, which are to be catalogued. For example, following entry is given in the list under the 'Catalogues, Classified' heading:

- Catalogue, classified see also classification books
- X catalogues, systematic; classed catalogues; classified catalogues; XX classification - books; library catalogues.
- Appropriate heading is selected from the above entry. If see also item is selected for the subject heading, then see directions will be given from the headings after X.
- Provision has also been made in this list for specific entry principle, sub-division of subject's use of geographical names in the subject headings, plural forms of the headings, obvious headings etc. At the same time, rules related to the use of normally popular words and their relevance are also given in it.

### 13.3 Subject Cataloguing Concepts, Purpose and Problems

If we examine the principles of descriptive cataloguing, we find that they are concerned first with objectives:

1. To distinguish an item from all other items and to describe its scope, content, and bibliographic relation to others, and
2. To present these data in a form which permits integration with the descriptions of other items and which will respond best to the interests of most users of catalogues.

Second, they state certain generalizations about how the objectives are to be achieved:

1. That a physically complete copy shall be described,
2. That the description shall be no more extensive than necessary,
3. That the terms used in the item itself shall form the basis of the description,
4. That the data shall be organized in a manner most useful to patrons and best suited to integration with other catalogue entries,
5. That documentation shall be given only in unusual cases, and
6. That a uniform style shall be adopted for all entire.

The principles of subject cataloguing ought to be similar in structure, though, of course, not in detail. They should be concerned with such questions as:

1. What is the purpose of subject cataloguing?
2. What form is the subject' catalogue to take?
3. To what depth shall subject analysis ordinarily be attempted?
4. What shall be the form of entry for the subject catalogue? and
5. What ought the language and terminology of the subject to catalogue to be?

As assessing the current situation in subject cataloguing, it is apparent that some of these principles have already been established by common practice, if not by common agreement. For instance, the alphabetic subject catalogue, either alone or as an integral component of the dictionary catalogue, has come to be the most general form in U.S.A if not outside. Library of Congress subject heading forms are virtually standard. And, in general, there is wide agreement in U.S.A, even among specialists, that the English language and common and popular terminology shall be used for the subject headings in catalogues. It should be apparent; however, that each of these principles which has come to be widely accepted is dependent upon the purpose of the subject catalogue. Yet this is a point upon which we have not yet reached wide concurrence. We are in the somewhat curious position then of having agreed to generalizations about something whose aim is not yet clearly determined. It is this failure to define the objective with sufficient precision which has contributed to the long, still unsettled controversy over the most suitable form for the subject catalogue to take. It is this same failure which has led in our time to some confusion between the functions of subject cataloguing and subject indexing, and to criticisms of the subject catalogue because it does not provide the sufficiently deep analysis of the contents of our libraries required or sought by some users of library materials.

Haykin has stated that "the primary purpose of the subject catalogue is to show which books on a specific subject the library possesses." This presumes that subject entries will be made for specific concepts, and that the reference structure of the catalogue will be designed to facilitate the isolation of specific subject, and for no other end. In contrast, Charles A. Cutter speaks of cross references as correspondents to and substitutions for the arrangement in a systematic catalogue. Since it is an accepted function of the systematic catalogue through its arrangement and its index to reveal all of the relevant material on a subject which is recorded within it, it is apparent that we have here two diametrically opposed objectives.

The first aim is to facilitate the identification of a particular reference or a few selected references; the second is to present a bibliography of all there is to be found on a particular subject within a specific collection. Obviously the techniques required to achieve selectivity on the one hand and comprehensive coverage on the other will be different. Julia Pettee, S. C. Bradford, and B.C. Vikery, as well as others, have asserted the dependence of the alphabetic subject catalogue upon

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classification. According to their point of view a logical structure of cross references within the subject catalogue is essential to its effectiveness, so that at whatever point a user enters it, he will be led to all of the entries relevant to his goal. It is not surprising that most of the group referred to, including Bradfrd, Vikery, H.E. Bliss, and S. R. Ranganathan, to mention but a few, prefer the classified catalogue as an economical approach, since references are not scattered so widely within the framework of a classification scheme as they are in an artificial alphabetic arrangement. They insist upon the need for logical integrity in the subject catalogue, since they conceive that its function is to identify all of the references within the system which are related to the topic under investigation.

Opponents minimize this need and adopt a more pragmatic approach. Their attitude is perhaps best expressed by Jerrold Orne, who denies the need to coordinate every related subject heading with cross references, and asserts that subject cataloguing problems stem, in large measure, from failure to distinguish between indexing, as he calls it, and classifying. If the function of the subject catalogue is to facilitate the identification of selected items on some specific subject, its reference structure should be no more complex than necessary for the purpose. This is not a new point of view by any means, for W. W. Bishop.

Implicit in both arguments is concern for the user of catalogues, for both parties seek to provide a subject approach to library materials which will have the greatest utility. The habits of catalogue users ought, then, to furnish definitive evidence to eliminate the disagreement. Unfortunately, our catalogues have long been constructed upon untested assumptions as to how they are employed. It is only within recent years that attempts have been made to describe the habits of catalogue users, and what evidence is available seems too limited to settle the dispute with any finality. Such evidence as is available tends to support the pragmatists, indicating that most people utilize a subject catalogue either as a guide to shelf location or as an aid to the selection of a few good references. There is no evidence to suggest that there is any significant use of the subject catalogue to locate all of the material on a particular subject which the library may own.

As a matter of fact, there are serious limitations upon the ability of the subject catalogue to do this. Obvious omissions include discussions in non-monographic publications which are not analyzed in the catalogue, and shorter treatments which may be incidental to a monographic discussion of another topic. But there are others as well. Jennette Hitchcock has enumerated over ninety groups of material, of four general types, for which subject entries are not ordinarily found in typical subject catalogues.

Until catalogue function is defined with some precision, it is not possible to propose final answers to questions either of theory or of method, and answers which are suggested must be considered tentative and subject to change. There are hopeful signs, however. Modern discussions of the subject catalogue show increasing awareness of the inability of the subject catalogue to exhibit a logical and wholly consistent structure, and at the same time be receptive promptly to such new terms and new references as may be required to direct users to the materials they want. (At least these features cannot be achieved if subject cataloguing is to be kept up to date and if its costs are to be held within reasonable limits.) As Alex Ladenson points out, we must decide whether the catalogue is to be an alphabetical quick-reference-finding tool, a scholarly and exhaustive bibliography, or a logical and systematic arrangement of the fields of knowledge. Insofar as a trend can be discerned, it appears that the pragmatic approach is in the ascendant. There are suggestions, more in the air than on paper, that subject catalogs are destined to be freed from their logical framework and developed along more utilitarian lines in the future. And the substance of the discussions at the institute on subject analysis held at Columbia University in the summer of 1952 suggests that there is wide recognition of the urgent need to define objectives and principles in the immediate future.

Orne's insistence that subject cataloguing is really indexing has already been noted. While this may be a valid generalization, it may also be a deterrent to the determination of true catalogue function. For just as the subject catalogue is relatively inefficient in comparison with subject bibliography in assembling all of the materials which deal with a particular subject, neither does it compete with the subject index in isolating units of information which relate to a topic, unless its scope is expanded far beyond what seems presently to be practicable. There is need to recognize different levels of subject control, and within the hierarchy the bibliography serves one purpose, the subject catalogue another, and the subject index still a third. This distinction in purpose implies that we cannot substitute the bibliography for the catalogue, however attractive that possibility may seem. A corollary is obvious-neither can we substitute the catalogue for the bibliography, for to do so will obscure its real function and reduce its efficiency. But the need to identify units of information is particularly acute in a society which has come to be dependent upon scientific and technical research, Science and technology require this, as is evident from the variety of indexing and abstracting services which have been developed to serve workers in these subject fields. S. V. Larkey has observed that Chemical Abstracts attempts to provide a subject entry for every important topic considered in each article it indexes. During and since World War II, the need to isolate specific units of information has been felt more acutely than ever before, and the frustrating experiences of workers in scientific and technological disciplines has led to an insistence that subject controls be improved. In recent years there have been various attempts to develop techniques for subject analysis which will be competent to isolate minute topics, yet capable of easy manipulation in order to relocate units of information surely and economically when they are needed.

One phase of this development has been the proliferation of special lists of headings designed to reveal the subject content of the technical report literature which has been a by-product of the war and of continued governmental support to applied research projects. Another has been the attempts to exploit a variety of mechanical, electronic, and photographic machines and gadgets, in the hope that they might speed up the process of locating and identifying relevant units of information. This latter, in turn, has led to a renewed interest in systems of classification, for there was early recognition of the need for a competent code to organize information so that automatic subject searches might be made mechanically or electrically. Ralph R. Shaw has described and assessed the place of machine techniques in subject bibliography. It is now apparent that while mechanized methods of one kind or another have a legitimate place in subject analysis in its broadest sense, they do not appear to offer any direct assistance in solving the problems of the subject catalogue. And there seems also to be a general awareness that the limitations of the subject catalogue prevent its becoming an efficient device for identifying and locating units of information.

There is another aspect to this introduction of machine techniques in subject analysis which must be mentioned, lest such techniques become confused with the purposes of the subject catalogue and postpone further the definition of its true function. J. W. Perry has observed that human understanding of phenomena and events is based upon analysis in terms of who and what participated, what happened under what conditions, and with what results. Thus any device intended to facilitate understanding and we may accept the subject catalogue as one-must attempt to show interrelationships among the concepts and ideas with which it operates. It will be evident that subject headings do this, for almost any one which consists of more than a single term shows some relation, as, for example, "Radioisotopes-Physiological Effect." The relationship here suggested is a more specific concept than "Radioisotopes" alone. Mortimer Taube has shown how the introduction of a second subdivision, thereby refining the expression of relation, may produce a still more specific concept; thus "Liver- Radiation Injuries-Gamma Rays" is more specific than the combination of two separate subject entries: "Liver-Radiation Injuries," and "Gamma Rays-Pathological Effects." Without laboring the argument, however, it will be realized that there are limits beyond which the subject catalogue cannot express complex relations directly and intelligibly, since the high

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degree of subordination of terms required can result in an overwhelming variety of approaches, thus necessitating an unwieldy cross reference structure.

Machine techniques for sorting, Perry points out, have been developed to a point where searches can be made quickly and efficiently for highly complex relationships, and particularly for those which may not have been anticipated at the time the original index references were made. In the ordinary subject catalogue such relations can only be sought, if at all, through laborious rearrangements of the entries in order to bring into juxtaposition the separate components.

In connection with the development of machine techniques it has been observed that there is need to weigh carefully the terminology and form of subject heading terms employed, since effectiveness depends upon the precision with which particular concepts can be described and identified. A machine is incapable of making semantic differentiations. Thus subject heading terms used in machine sorting must be precisely and exactly defined. While reasonably precise terminologies are characteristic of the sciences and of law, they are not typical of other fields. The nature of the problem in the social sciences has been suggested by C. A. Beard and Sidney Hook and by C. J. Friedrich and Mary C. Trakett. In any case subject cataloguing techniques which use compound, phrase, and subdivided headings introduce semantic problems. Taube has considered this matter of terminology in several papers, and has suggested that a "coordinate" system of indexing which uses single terms as subject entries makes it possible to identify necessary relationships at the same time that it eliminates the need for complex subject heading terms and an elaborate cross reference structure. Relations are identified by comparing the entry cards for as many specific concepts as may be involved, and by isolating the items which are common to all of the entries. Since individual entries are unit terms only, there is no theoretical limit to the complexity of relationships which can be sought through this system. A particular advantage cited by Taube is the ability of the unit system to absorb subject terms and headings from different authorities or standard lists, since a separate entry under each term of the heading eliminates the necessity of considering the particular form in which the heading may be expressed. This hospitality of the unit system recommends its usefulness in any cooperative indexing project. Taube's scheme is provocative, even though it has not yet been tested fully nor had its applications to subject cataloguing practices defined clearly.

Since we have come no closer to realizing a precise statement of objectives for the subject catalogue than the foregoing account indicates, it is evident that there can have been no revolutionary changes in subject cataloguing methods. Thus the basic code for subject cataloguing is still largely the same as that formulated by Cutter in 1876. A comparison of Cutter's rules with those contained in the Vatican Library's *Norme*, now available in English translation, reveals only a multiplication of rules to cover specific cases, and no significant differences in method. Two other publications in recent years have served to crystallize the method. Miss Pettee's somewhat brief account of the development of the alphabetic subject catalogue identifies origins and clarifies relationships among the varied forms of subject catalogues. And her exposition of the technique of analyzing specific headings and their interrelationships is the classic account of how integrity of the logical structure of the catalogue is to be obtained. More recently, Haykin's manual on subject headings outlines the body of subject cataloguing principles insofar as they have been developed, and describes in detail the particulars of L.C. practices in handling some of the more vexing problems, such as those of reference structure, subdivisions, geographic headings, and filing arrangements. A recent announcement looks to the early publication of a subject heading code which, presumably, will have the same purpose and usefulness in subject cataloguing as W. S. Merrill's Code for Classifiers has for classification.

There have, of course, been other changes. The major general lists of subject headings have been altered in detail and content, but not in any fundamental way. The L.C list, now grown to larger size through the addition of new headings, and it has taken over the general plan of arrangement



used by Minnie E. Sears, so that all see also and refer from references are listed with the headings to which they are related. Thus the list has become easier to use as an aid in subject cataloguing. Moreover, its monthly and cumulated lists of changes and revisions represent a highly-developed expert technique for acquainting using libraries promptly, and on a current basis, with modifications made by L.C. Haykin has announced that the sixth edition will be a thoroughly revised and pruned list calculated to eliminate a maximum number of obsolete terms and to correct inconsistencies which have crept in through the years.

The Sears list, originally designed for use in small libraries, has enlarged its scope so that it now comes nearer to meeting the requirements of medium-sized libraries. Though it lacks an effective method for being kept up to date, completely new editions have been published with relative frequency. Except for its use of less specific terminology and fewer subdivisions, the Sears list resembles the L.C. compilation in conception and in major detail, so that shifting from the use of one to the other is not a particularly burdensome change. Neither list is wholly satisfactory, however-L.C. because it is too comprehensive, and Sears because it seems not to be comprehensive enough. Jennette Hitchcock and Edith Scott have both spoken to this point; and Miss Scott, in particular, has suggested the need to develop a new subject heading list less comprehensive than L.C., but still more detailed than Sears, for use in college libraries. In spite of the criticisms of these lists, both have come to be widely accepted as standard. Both have grown in size. Since 1944, for example, nearly 14,000 new subject headings have been added to the L.C. compilation, while only 1,100 have been canceled and changed. Undoubtedly the alterations represent an attempt to keep the L.C. subject list as specific and up to date as possible. An earlier study by the present writer demonstrates that the changes in question also increase the specificity of L.C. subject headings. This finding is in keeping with Margaret Egan's observation that one trend in subject analysis has been a shift in emphasis from abstract to concrete and highly specific terminology. The question that particularity looms large in most discussions of subject cataloguing, for while the principle of specific entry has been widely accepted, the auxiliary problem of how specific is specific is still not solved. Haykin has observed that the question is not one to which an absolute answer can be given, since the need will vary from subject field to subject field and from library to library. Apparently in some circles, however, there is feeling that we have allowed headings to develop which are too distinctive for greatest utility. Focusing interest upon the principle of specific entry has raised other questions about the form of subject headings represented in the general lists. Haykin has pointed out that if this principle is accepted, headings must be direct as well as specific in order to keep practices consistent. Not only do direct-specific headings imply a minimum of inversion and subordination, but they also avoid the pitfalls of alphabetic classed subject headings which found their way into the first edition of the L.C. subject heading list because, according to J. C. M. Hanon, L.C. cataloguers assumed that such headings reflected the typical approach of readers. There is no universal agreement on the need for direct and specific entry, however. Marie L. Prevost has suggested that wide adoption of a form of heading putting the prominent noun first would produce subject headings which could be explained more easily, and which would require fewer and less complicated cross references. Though this approach would lead to a prevalence of alpha-betico-classed headings, it is not clear whether the user would find them easier to handle. The evidence from studies of use points to widespread failure to comprehend the principle of specific entry, at the same time that it suggests preference on the part of users for it. While further studies of the question are essential to understanding of the problem, it may be that no clear-cut pattern can be identified, and that the makers of future lists can adopt an arbitrary but consistent scheme of subject heading forms which users will be expected to master, even as they now have to adapt their personal preferences to conventions in many human relationships.

Other questions regarding the form of subject entries have been raised from time to time and are still under discussion. The perennial problem of deciding when to subordinate place to topic, and



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vice versa, has never been settled, and Haykin suggests that it may never be. Studies by Patricia B. Knapp and Eloise Rue indicate that present practices are not precisely in agreement with habits of catalogue users. Mrs. Knapp has observed that people tend to look under subject for materials having a local or national focus, but under place for those with a nonlocal or foreign focus. The implication in this observation is that standard lists must be so constructed as to allow for this variation from library to library. Thus, a catalogue in Greensboro, Developments in Subject Cataloguing North Carolina, would use the entries "Education-Greensboro, N.C." and "Cleveland, O.-Education," while the Cleveland Public Library would simply reverse them. Another feature of general subject heading lists about which there has been extended discussion is the defining of terms. Bishop calls attention to its essentiality in his manual, and Haykin's suggests that it is required when general dictionaries and dictionaries in special subject fields do not agree and when usage does not offer a sufficiently precise definition of a subject. Many lists, both general and special, include definitions, and H.L.J. Voigt's list of headings for physics provides a good demonstration of their value. From the attention devoted to the need for more of them it appears that the practice in supplying them has not been in line with Haykin's statement as to when they should be given. One of the assumptions in subject cataloguing has always been that a special library which concentrates on a particular subject field, or which tries to render more specialized services than a general library does, will require a particular list of subject headings, and perhaps even a special classification system, in order to meet the needs of its clientele. Doris Bolef's study of subject cataloguing practices in a number of special libraries in the New York City area, and her evaluation of a number of special subject heading lists, has led her to the conclusion that a special library ordinarily does need a subject heading list incorporating more specific and detailed headings than those employed in a general library. H. T. Black, in turn, has pointed to the need for more special lists and has attested to their usefulness even in general libraries.

Some indication of the number of special subject heading schemes available may be derived from the following statistics. In 1940, Black enumerated forty-four in his checklist; in 1952, the Committee on Subject Headings of the A.L.A. Division of Cataloguing and classification identified forty-eight compiled between 1938 and 1952. Of these forty-eight, only two appeared in the previous count. Thus at least ninety special lists have been developed, mostly since 1916. Table 13.1 compares their distribution by broad subjects. While the social sciences still boast the largest number, the increase for scientific and technological subjects during the past fourteen years testifies to the greater interest in these areas in the war and postwar periods.

Table. 13.1

| Special subject heading list |            |             |       |
|------------------------------|------------|-------------|-------|
| Subject Area                 | Black,1940 | A.L.A.,1952 | Total |
| Social Science               | 32         | 16          | 48    |
| Science and Technology       | 6          | 26          | 32    |
| Art, Music, Theology         | 6          | 4           | 10    |

Another indication of the need for special subject heading schemes is the interest shown by various groups of specialists. In particular that of the medical profession should be noted. Since 1948 the Welch Medical Library at John Hopkins University has been making an intensive study of medical indexing under the terms of a research project sponsored by the Armed Forces Medical Library. Established to examine the problems in indexing medical literature, to explore the theory and practice of subject headings and classification as they relate to medical literature, and to consider existing and projected machine methods applicable to medical bibliography, the undertaking has made considerable review of various lists of subject headings pertaining to medical literature.

Of particular interest is the technique of category analysis, which has been used to rationalize the content and structure of alphabetic subject heading lists. Through this method, as described by Taine and F. B. Rogers, all of the headings and references which relate to a particular category are assembled in a single enumeration, so that it becomes possible to observe whether there is any overlapping in terms, any inconsistency in form, or any defect in the reference structure. Hilda Steinweg has demonstrated the value of the same technique for rationalizing subject headings and references in political science. Superficially, at least, it appears that it should be valuable in improving any subject heading plan.

**Bolef suggests certain standards for subject headings in special library catalogues.**

She suggests that:

1. The heading should be as specific as the subject matter of the material to which it is being applied,
2. New headings should be introduced as rapidly as the need for them is recognized,
3. Headings should be defined as necessary and distinctions between terms clearly described,
4. Headings should reflect the use habits of the clientele served and popular or scientific terms chosen according to the preference of the clientele,
5. Headings should be consistent in form,
6. Inverted and subdivided headings should be held to a minimum,
7. Every cross reference should serve a specific function,
8. Standard subdivisions should be utilized where they are appropriate, and
9. Large blocks of headings should not begin with the noun or nouns representing the chief subject interest of the library.

The similarity of these standards to those outlined by Haykin suggests that when we have succeeded in defining the objectives of subject cataloguing, we shall find little variation in objective between subject cataloguing in general libraries and in special libraries, but rather a variable need for specificity, and a practical requirement that there be certain options in the form of heading in order to avoid a concentration of subject entries under, for example, "Education" in a teachers' college library. Moreover, as Black has pointed out, many general libraries have special collections which require unusual subject treatment in order to make them most helpful. Thus it seems that special subject heading lists will have greatest value when they are designed to dovetail with standard lists, so that they prescribe optional expansions for a variety of subject fields. A norm for subject cataloguing techniques will then have been established. This should make it easier for the public to understand and to use subject catalogues, since there will be fewer variant practices. It should also open up new avenues to cooperative subject cataloguing. The ALA. division of Cataloguing and Classification, through its Board on Cataloguing Policy and Research, is preparing to study the problem of integrating general and special subject heading lists, and some progress in this direction may be anticipated. That it can be hoped for is evident from Hazel C. Benjamin's account of the compilation of the new standard list of subject headings for industrial relations libraries. This list, in its final form, is so constructed that it can be used with the L.C. list without disrupting the pattern or the applications of L.C. headings.

It is premature to suggest the directions integration may take, assuming that study of the problems involved shows it to be possible. But the development of present subject cataloguing procedures, and existing evidence of the ways in which subject catalogues are used, make it possible to state some tentative assumptions. First, the tendency of subject headings found in the general lists to become more specific, when taken with the expressed needs of special libraries for specific subject approaches to their materials, suggests that the plan for integration will look toward an increasing number of direct and specific headings, with a minimum of inversion, fewer subdivided forms, and more phrase-type headings. Second, since it may prove difficult to accommodate the varieties

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of verbal and terminological patterns likely to be found among the diverse classes of users and different groups of specialists, some agreement upon a common standard representing the habits and preferences of a cross-section of those who consult subject catalogues is likely to be necessary. Intensified efforts to acquaint users with this standard will be required. Third, since some subdivision of headings will be unavoidable, particularly that by form, a standard list of subdivisions to be applied as desired will be a feature of the integrated lists. Fourth, conventions for such techniques as the subdivision of place by topic and topic by place will be flexible, so as to permit each library to select that approach which seems most serviceable for its clientele. Fifth, some option in utilizing particular terms as independent headings or as subdivisions will be necessary. Sixth, greater emphasis will be given to providing definitions and scope notes, both in the general and the special lists, in order to make the distinctions in meaning and in use which probably will be essential. And seventh, the development of special lists as optional extensions of general ones, together with the need to provide for alternative approaches in both general and special lists, will result in the disappearance of the systematic reference structure of the catalogue which his Pete and others have held to be necessary. In its place will be substituted a purely utilitarian framework, designed to provide no more than essential correlation between particular specific headings, and of course, needed references from terms not employed to those which are. In other words, a workable plan for integration of general and special subject heading lists will recognize at the outset that if the reader is to be the focus, standards must take formal notice of individual differences. Such differences may mean that the subject catalogue requirements in one library or in one community will be quite unlike those in another, though R. R. Irwin has suggested that the variations in approach to the catalogue we have assumed do not exist. His evidence is limited, however, and until corroborative information is available from a more extended study, we must accept the subjective opinions of librarians that there are discrete local needs for which provision must be made.

In the assessment of current developments in subject cataloguing it will be noted that relatively few references have been made to developments in foreign countries. In general, other countries outside U.S.A have not evolved subject catalogues which correspond to U.S in any large numbers, so that the problems of American and foreign libraries developments in Subject Cataloguing are not precisely the same. Few standard lists of subject headings have been devised in other countries, and when they have, they show strong influence of American practice. If the classed catalogue is the form accepted, other questions beyond the scope of this discussion will have to be considered. The catchword subject on the other hand is a hybrid animal, whose permutations are not susceptible either of orderly discussion or codification. Since classed and catchword subject catalogues are more common in other countries than alphabetic ones, it is not surprising that most foreign discussions of subject cataloguing problems relate to these types. We must not forget, however, that the only comprehensive code for modern subject cataloguing practice prior to the appearance of Haykin's manual was in the Vatican rules. What does it all add up to? What are the implications for the future? Two main questions run through discussions of the total cataloguing process, viz.:

- (1) How may the effectiveness of the techniques for organizing library materials be improved
- (2) How may these techniques be managed so that their cost will not require an excessive portion of library budgets? Too many cataloguing procedures are based upon tradition, and for too many years these traditions have gone unchallenged. It has now become necessary to inquire into the real purposes of the various cataloguing activities, to assess the appropriateness of the methods to serve them, and to seek alternative means which will serve them better. In particular, concern for the user of libraries has been given renewed emphasis. Subject cataloguing, like rules for author and title entry and conventions for descriptive cataloguing, has developed in a haphazard way. Rationalization of the descriptive cataloguing code and of the rules for author and title entry has

been given first attention. And while study of these phases of cataloguing is not yet complete, the subject cataloguing process is beginning to receive its share of scrutiny.

To effect the improvement sought in subject cataloguing will require:

1. that we find out more about who uses the subject catalogue, for what purpose, and in what way;
2. that we define the function of the subject catalogue in the light of this knowledge, and spell out a code of practice to facilitate the construction of subject catalogues for all types and sizes of libraries;
3. that we develop both standard and specialized lists of subject headings in accord with this function and code; and
4. that we make use of our code and our lists to exploit the possibilities of cooperative cataloguing in obtaining more complete and more effective subject control of library materials at less cost. It is not likely that subject catalogs will disappear. For we are beginning again to recognize, as Bishop did in 1906, that "Our aim as librarians is not merely to accumulate books. It is to help the reader to the books he wants-or ought to want. In a large library the only tool which accomplishes this result is the catalog, and of this the subject catalogue is the part most difficult to make, most useful when well made."

## Self Assessment

Fill in the blanks:

1. The main objective of subject cataloguing is to fulfil the subject related needs of .....
2. The objective of ..... of subject heading is to keep the documents of a specific subject under a uniform subject heading.
3. .... has stated that "the primary purpose of the subject catalogue is to show which books on a specific subject the library possesses".

## 13.4 Chain Indexing-Library of Congress Subject Headings (LCSH)

The Library of Congress Subject Headings (LCSH) comprise a thesaurus (in the information technology sense) of subject headings, maintained by the United States Library of Congress, for use in bibliographic records. LC Subject Headings are an integral part of bibliographic control, which is the function by which libraries collect, organize and disseminate documents. LCSHs are applied to every item within a library's collection, and facilitate a user's access to items in the catalogue that pertain to similar subject matter. If users could only locate items by 'title' or other descriptive fields, such as 'author' or 'publisher', they would have to expend an enormous amount of time searching for items of related subject matter, and undoubtedly miss locating many items because of the ineffective and inefficient search capability.

### An art and a science

Subject heading classification is a human and intellectual endeavour, where trained professionals apply topic descriptions to items in their collections. Naturally, every library may choose to categorize the subject matter of their items differently, without a uniform consentaneous standard. The widespread use and acceptance of the Library of Congress Subject Headings facilitates the uniform access and retrieval of items in any library in the world using the same search strategy and LCSH thesaurus, if the correct headings have been applied to the item by the library. Thus, LCSH decisions involve a great amount of debate and even controversy in the library community.

Despite LCSH's wide-ranging and comprehensive scope, there are libraries where the use of LCSH is not ideal or effective. To deal with these types of collections and user communities, other subject

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headings may be required. The United States National Library of Medicine developed Medical Subject Headings (MeSH) to use on its many health science databases and collection. Many university libraries may not apply both LCSH and MeSH headings to items.



*Notes* In Canada, the National Library of Canada worked with LCSH representatives to create a complementary set of Canadian Subject Headings (CSH) to access and express the topic content of documents on Canada and Canadian topics.

### 13.4.1 LCSH Policy Issues

Historically, issues have revolved around the terms employed to describe racial or ethnic groups. Notable has been the terms used to describe African-Americans. Until the 1990s, the LCSH administrators had a strict policy of not changing terms for a subject category. This was enforced to tighten and eliminate the duplication or confusion that might arise if subject headings were changed.



*Did u know?* One term to describe African-American topics in LCSH was 'Afro-American' long after that term lost currency and acceptance in the population. LCSH decided to allow some alteration of terms in 1996 to better reflect the needs and access of library users.

Nevertheless, many common terms, or 'natural language' terms are not used in LCSH, and may in effect limit the ability for users to locate items. There is a growing tradition of research in Library and Information Science faculties about the cultural and gender biases that affect the terms used in LCSH, which in turn may limit or deprive library users access to information stored and disseminated in collections. A notable American Library Science scholar on this subject is Sanford Berman.

### 13.4.2 Data Access

The Subject Headings are published in large red volumes (currently five), which are typically displayed in the reference sections of research libraries. They may also be searched online in the Library of Congress Classification Web, a subscription service, or free of charge (as individual records) at Library of Congress Authorities. The Library of Congress issues weekly updates. The data is published for a fee by the Cataloguing Distribution Service.

A web service, LCSH.INFO, was set up by Ed Summers, a Library of Congress employee, circa April 2008, using SKOS to allow for simple browsing of the subject headings. LCSH. Info was shut down by the Library of Congress's order on December 18, 2008. This announcement was met with great dismay from the library science and semantic web communities, e.g. Tim Berners-Lee and Tim Spalding of LibraryThing. After some delay, the Library did set up its own web service for LCSH browsing at id.loc.gov in April 2009.

### 13.4.3 Using LCSH

Once a library user has found the right subject heading(s), they are an excellent resource for finding relevant material in your library catalogue. Increasingly the use of hyperlinked, web-based Online Public Access Catalogues, or OPACs, allow users to hyperlink to a list of similar items displayed by LCSH once one item of interest is located. However, because LCSH are not

necessarily expressed in natural language, many users may choose to search OPACs by keywords. Moreover, users unfamiliar with OPAC searching and LCSH, may incorrectly assume their library has no items on their desired topic, if they chose to search by 'subject' field, and the terms they entered do not strictly conform to a LCSH. For example 'body temperature regulation' is used in place of 'thermoregulation'. Thus the easiest way to find and use LCSH is to start with a 'keyword' search and then look at the Subject Headings of a relevant item to locate other related material

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## Self Assessment

State whether the following sentences are true or false:

4. The United States National Library of medicine developed medical subject headings to use on its many health science databases and collection.
5. LCSH.INFO was set up by Ed Summers, a library of congress employee, circa December 18, 2009.
6. The easiest way to find and use LCSH is to start with a keyword search and then look at the subject headings of a relevant item to locate other related material.

## 13.5 Summary

- Subject Cataloguing is that specific procedure of cataloguing by which the cataloguer chooses the appropriate subject heading for the subject discussed in the catalogued books.
- There are different kinds of subject catalogue. Alphabetical subject catalogue, Classified subject catalogue, and Alphabetic — classed subject catalogue.
- Subject heading is that element which gives complete indication of the subject entry. The headings of the subjects remain uniform, ordered and specific.
- Selection of the subjects heading is very important in formation of the subject entry.

## 13.6 Keywords

*Subject cataloguing* : Form or portion of the library cataloguing process that not only describes a title but classifies it and assigns subject headings.

*Subject heading* : Subject heading is that element which gives complete indication of the subject entry.

*Subject heading classification* : Subject heading classification is a human and intellectual endeavour, where trained professionals apply topic descriptions to items in their collections.

## 13.7 Review Questions

1. Explain the concepts, purpose and problems of subject cataloguing.
2. Discuss Sears list of Subject headings.
3. Write the uses and limitations of subject heading list.
4. Elaborate policy issues of LCSH.
5. Write the uses of LCSH.

## Answers: Self Assessment

- |            |               |           |         |
|------------|---------------|-----------|---------|
| 1. Readers | 2. Sears list | 3. Haykin | 4. True |
| 5. False   | 6. True       |           |         |

### 13.8 Further Readings



Books

Lynch, Sarah N., and Eugene Mulero. *Dewey? At This Library with a Very Different Outlook, They Don't*, The New York Times.

Chan, Lois Mai. *Cataloguing and Classification: An Introduction*, second ed. New York: McGraw-Hill.



Online links

<http://books.google.co.in/books?id>

<http://home.olemiss.edu/~tharry/SH/lcshguide.pdf>



## Unit 14: Development and Trends in Library Cataloguing

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### Objectives

After studying this unit, you will be able to:

- Describe centralized and cooperative cataloguing
- Explain about International Standard Book Description (ISBD)
- Enumerate union catalogue types
- Elaborate recent trend in cataloguing.

### Introduction

In centralized cataloguing, the cataloguing activity is limited to a library system which has a number of branches or departments. There is no commercial basis involved in the production and distribution. The success of centralized or cooperative cataloguing depend on the agreement on principles and techniques for carrying out these programs, availability of financial support; and willingness on the part of the participating libraries. Centralized cataloguing is relevant to countries like India. This will also lead to improvement of other services, since some staff can be engaged in performing other services in the Library. The idea of shared cataloguing which is a form of cooperative cataloguing came into being in 1960's. This success of this type depends upon the spirit of cooperation.

### 14.1 Centralized and Cooperative Cataloguing

In centralized cataloguing, the cataloguing activity is limited to a library system which has a number of branches or departments. There is no commercial basis involved in the production and

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distribution. The entire cataloguing work is done by the central agency. According to Sharp “cataloguing of a large library system is often centralized”. In cooperative cataloguing, a number of libraries share the cost and work of producing the catalogue. Cooperative cataloguing may also be called shared cataloguing. Some regard cooperative cataloguing as a part of centralized cataloguing, provided the centralized cataloguing is coordinated by a central agency. Centralized cataloguing reduces cataloguing efforts by providing centralized services and cooperative cataloguing makes it possible to put existing library resources to better use.

The success of centralized or cooperative cataloguing depend on the agreement on principles and techniques for carrying out these programs, availability of financial support; and willingness on the part of the participating libraries. Centralized cataloguing is relevant to countries like India. This will also lead to improvement of other services, since some staff can be engaged in performing other services in the Library.



*Notes* The idea of shared cataloguing which is a form of cooperative cataloguing came into being in 1960's. This success of this type depends upon the spirit of cooperation.

## **Bibliographic Standards**

### **14.2 International Standard Book Description (ISBD)**

All the information systems are aimed at high recall and precision: To ensure this, sufficient revisions are made in the bibliographic description (*i.e.* Author, title, imprint, etc) of a document. Later, the librarians felt that some standard Bibliographic Description is to be evolved. As a result, numbers of meetings were held at Copenhagen M Moscow and Budapest. Under the headship of A. H. Chaplin, a committee was constituted to start the preliminary work. In 1974, the International Standard Bibliographic Description for monographic publications (ISBD M) was published.

#### **14.2.1 Scope of ISBD**

1. It acts as an instrument for the International communication of bibliographic information.
2. To make records from different sources interchangeable.
3. To facilitate their interpretation across language banners, and
4. To facilitate the conversion of such records to machine readable form.

#### **14.2.2 Areas Identified**

The ISBD, identified the following for the description of a document:

1. Title and statement of responsibility area
2. Edition area
3. Material area
4. Publication details area
5. Physical description area
6. Series area
7. Note area
8. Standard number area



*Did u know?* The IFLA (International Federation of Library Associations) which is responsible for ISBD and the Joint Steering Committee of AACR agreed to follow the rules of ISBD for AACR II.

***Title and Statement of Responsibility Area***

Notes

This area includes the title, sub-title, the name of the author, the name of the institution (if it is a corporate author) etc.

***Edition Area***

This area includes the edition number of the document.

***Material Area***

This is not used for monographs. This area is meant for denoting the type of publication.

***Publication Area***

Place of Publication, name of the publisher, date of publication, etc. are mentioned in this area.

***Physical Description Area***

Number of volumes, pagination, illustrations, size of the document, etc. is mentioned in this area.

***Series Area***

The name of the series, the number of the series, etc. are mentioned in this area.

***Note Area***

This area contains the description which is not given in other areas

***Standard Number Area***

International Standard Book Number is given in this area. Each area is differentiated by punctuation marks like dot, dash, semicolon, colon, comma, slash, etc.

**14.3 Dictionary Catalogue**

In catalogue, both the Physical form and Inner form is equally important. The inner form of the catalogue includes the necessary entries that are essential to describe a document. The inner form decides which one of the several access points are to be considered 'prime' or 'important' or 'main'.

In a classified catalogue, the class to which the book belongs is considered as important. But in a Dictionary Catalogue the author is considered as important, *i.e.* the main entry in a Dictionary Catalogue is prepared under the author.

**Entries**

The following entries are found in a Dictionary Catalogue:

1. Main entry (under the author)
2. Collaborator added entries
3. Subject added entries
4. Title added entries
5. Reference entries
6. Analytical entries

The entries that are made under the names of the authors are arranged alphabetically. It is easy to consult. But it has many problems:

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1. If there are two or two more authors, or short stories or collection of poems, how to give the main entry in such cases is the problem.
2. If the book is published under the name of a corporate body-again the problem of making main entry arises.

In this part descriptors are categorized on the basis of subject relationship into broad fields are all the factors to be considered for updating the thesaurus.

### **14.4 Union Catalogue Types**

Union Catalogue is of two types: (1) General the aurous and (2) Specific Subject the aurous. The General the aurous include all the subjects and more terms where as specific the aurous deals with specific subject (*e.g.*, Mechanical energy) only.

The union catalogue may be classified by area covered such as local, regional and national. The types of union catalogue may also be based on materials included, such as books, periodicals etc.

### **Functions**

1. To serve as a tool for location of a given document
2. To help in inter-library loan
3. To serve as a book selection tool
4. To help to achieve coordination in acquisition
5. To serve as a useful source for obtaining bibliographic information
6. To reveal the total document resources of libraries in a region, thereby indicating the Strength or weakness of the holdings.

### **Steps involved in Compiling a Union Catalogue**

Before compiling a union catalogue, the following must be decided:

1. The libraries to be included
2. The materials (form, period, subject, languages, region) to be covered
3. Types of entries and description of each entry
4. Arrangement
5. Physical form
6. Method of compilation and revision
7. It is necessary to decide whether the union catalogue is going to be local, regional or national in scope. The local union catalogue is capable of showing the total holdings of local libraries within reach. A national or regional catalogue covers a large region having many libraries.

Forms of materials, period, subjects and languages to be covered have to be decided. Usually union catalogue of serial holdings are advantageous due to:

1. low cost of compilation
2. easy maintenance
3. less size
4. Saves money

The rules for headings and description must be decided by the cooperating libraries so that this leads to uniformity in rendering. For books, the author and title entry may be prepared. The author entry is the main entry and title entry is the added entry. The main entry should contain the holdings section indicating the name of the libraries having the document.

For periodical publications, the entry is provided under the class number and in addition, there can be an entry under the sponsoring body. It is always better to keep union catalogue in the card format. The cards can be arranged in an order.

## Uses of union catalogue

Notes

1. The union catalogue makes the full document resources of an area available every individual in that area.
2. The national union catalogue reveals the document resources of the country.
3. Union catalogue provides a quick method of tracing the availability of a particular document.
4. They guide book selection
5. They are helpful in discarding the books.

## Examples of Union catalogue

DSTSDOC has brought out a series of regional union catalogue of serials covering different regions

1. The library of congress has converted its union catalogue to microfiche from U983.

## 14.5 Descriptive Cataloguing

Descriptive Cataloguing has been defined as “that phase of the process of cataloguing which concerns itself with the identification and description of books”.

Descriptive Cataloguing helps in isolating a book from other books in the process of identification. This part of cataloguing is sometimes considered mechanical, but it is not so because the cataloguer has to use his judgment on the number and degree of minuteness of details to be adopted. They must be authentic and precise.

Reading material in modern libraries is not only limited to printed books but also, extends to maps, atlases, musical scores, Braille books, sound records, etc. Each class of material poses its own problems of description. Even in books, the complexity transcends all imagination.

**A simple analysis of books in modern libraries will result in the following main groups:**

1. Personal author publications, single and joint, with and without other collaborators like editors, translators compilers, etc
2. Corporate author publications (a) Government (b) Non-Government, *i.e.* society, institution, other organizations
3. Publications of pseudonymous writers
4. Anonymous works
5. Serials and periodical publications
6. New editions and duplicates
7. Incunabula
8. Manuscripts
9. Issues and off prints
10. Motion pictures and filmstrips
11. Maps, globes, etc
12. Music
13. Sound records
14. Pictures, designs, etc

Items in each one of the above groups will need a distinct pattern of description. The Library of Congress Rules for Descriptive Cataloguing (adopted by the American Library Association) 1949, provide the fullest directions for “the descriptive cataloguing of such material. Some libraries may decide to simplify these rules in accordance with their individual needs. It is still possible to maintain some standards of uniformity even in limited cataloguing”.

“A cataloguing entry should contain no item which is not necessary”. The judgments on the necessity for inclusion of all or some bibliographic details of the book in the catalogue entry will rest on the principles and standards adopted in individual libraries. To identify a work, author and title are usually sufficient. To identify a book, it is usually necessary to add the number of the

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edition and/or other appearances of the same work, it is necessary to add (where relevant) variations in the title, the name of the editor, translator, etc., the name of the publisher, the pagination, illustrative matter and size, the name of the series of which the book forms part.

With these priorities in mind and making adjustments in order to bring together items which together make up one part of the entry, the following sequence seem logical: title; edition; imprint; collation; series; other information.

**Self Assessment**

Fill in the blanks:

1. In ....., the International Standard Bibliographic Description for monographic publications (ISBDM) was published.
2. In a dictionary catalogue, ..... is considered very important.
3. Reference entries are found in a ..... catalogue.
4. The information that are supposed to be in a catalogue card are recorded in the ..... form.

**14.6 Machine Readable Catalogue—MARC Programme**

The origin of MARC in the Library of Congress can be traced to the King's report of 1963. The MARC Pilot Project (MARC I) was started in 1966. The Library of Congress started distributing on a weekly basis machine readable catalogue data to select libraries.

The information that are supposed to be in a catalogue card are recorded in the TAPE form. The information thus recorded in the tape form by the Library of Congress is known as 'MARC TAPE'.

Many libraries receive this tape for the following purposes:

- (a) Book selection and ordering
- (b) Printing catalogue cards
- (c) Library' automation purpose
- (d) Providing SDI services, etc.

Many organizations used the MARC Pilot Project (MARC I) with the help of the computers and produced successful results.

Since MARC I had certain limitations *i.e.*, each part of a catalogue entry could not exceed a certain length or number of characters, Library of Congress decided to introduce the modified form of machine readable catalogue records. A new format was developed and this format came to be known as MARC II.

**14.6.1 MARC II**

Library of Congress distributed the MARC II tapes to libraries from March 1969. In the beginning the coverage was limited to currently catalogued American Imprints.

**Salient Features**

1. This format made the record much more flexible.
2. Apart from the usual description found in AACR II, this format includes D.D.C., Library of Congress classification numbers, Library of Congress subject headings, etc.
3. This format enables accessing a record in the machine readable file.
4. Subscribers found that MARC Tapes were timely enough to be used in book selection, ordering and cataloguing.

5. MARC projects are in operation in number of developed countries such as Great Britain, West Germany, Italy, Australia. The developing countries like Malaysia are also using MARC facilities.
6. A format known as UNIMARC has been developed for the purposes of International exchange of bibliographic data in a machine readable form.
7. MARC records are used for a variety of purposes within the Library of Congress itself, including MUMS (Multiple Use Marc System).
8. The successful operation of MARC project tempted many libraries to subscribe to the services.
9. On-Line Computer Library Centre (OCLC) provides on-line access to MARC records to a number of libraries.
10. The OCLC also provides for online input of new cataloguing and the terminals serve as a UNION CATALOGUE of holdings of member libraries.
11. MARC-O (MARC Worlahma) and Southern Library Interstate Cooperative Endeavour
12. (SLICEC) provide services such as catalogue data search and print. SD1 service, etc.
13. Based on MARC records the bibliographic services division of the British Library I has been bringing out since 1973 a bibliography of books in English in ultra microfiche form.

The acronym MARC at present has several meanings. In general it refers to a format of machine readable bibliographic records. In specific terms it refers to a system that produces a MARC database.

Centralized cataloguing may be defined as the "Catalogue of documents by a central organization" for the benefit of the other libraries. It is an activity limited to all library system which has a number of branches or departments. The entire cataloguing processes are carried out by a central agency.

## Objectives

The objectives of centralized cataloguing are:

1. To avoid duplication work
2. To reduce cost of the catalogue
3. To achieve uniformity in classification and Cataloguing practice.
4. To improve the quality of the catalogue
5. To put catalogues to a more effective user
6. To enable member libraries to provide better services.

## Forms of Centralized Cataloguing

Some of the forms of centralized cataloguing are:

1. Card Service (Or sheet)
2. MARC (Machine Readable Catalogue) Service
3. Information service
4. Cataloguing in source
5. Cataloguing-in-publication
6. Pre-natal cataloguing

## Card (or sheaf) Service

The central agency produces catalogue cards (or sheaf) which are distributed to libraries. The individual libraries can file them after adding suitable headings. The BNB card/sheaf Ranganathan services are a good example of this. The library of congress and H.W. Wilson & company distributed printed catalogue cards. The Library of Congress card service started in 1901. The cards produce



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before 1949 contain excessive description cataloguing. From 1967 the Library of congress applied AACR I. Major modifications were introduced from time to time. BNB cards are easier to handle, but they started only in 1956.

### **Information Service**

Under this service, the central organization produces a bibliography from which the libraries can prepare their catalogue cards either by cutting the entries or by copying the information from the bibliography. The BNB was of this kind before the starting of card service. The INB is also of this type.

### **Cataloguing in Source**

Under this service, the central organization catalogues books before they are being published. During 1958-59 the Library of Congress experimented this for 1203 books and sent to the publishers. These entries appeared in the back of the title page. This was stopped since the publishers found it expensive. Further it was an interrupt on their publication programme.

### **Cataloguing in Publication**

This began in July in 1971 at the Library of Congress. At present there are over 1783 publishers who send material to Library of congress in advance. This enabled to print the catalogue entries in the verso of the title page. The entries are prepared by the LC and sent to the publisher within ten days. British cataloguing in publication started in 1975. Similar programmes were started in other countries also.

### **Pre-natal Cataloguing**

The concept of inclusion of catalogue entry in each book on publication was initiated by Dr. S. R. Ranaganathan. He designated this as pre-natal cataloguing. The national library prepares a master stencil of the catalogue cards for each book before it is released.

The catalogue cards are made available for distribution to libraries. Various kinds of bibliographies can also be prepared out of these cards. According to Dr. S. R. Ranaganathan this prenatal cataloguing work will reduce the technical work by 79%.

The cataloguing in source, cataloguing in publication and pre-natal cataloguing basically are meant for preparation of catalogue cards before the publication of books. Cataloguing in source was given up. Cataloguing in publication is successful. But the pre-natal cataloguing has not been tried anywhere.

## **14.7 Cooperative Cataloguing**

Cooperation has produced admirable results in all fields of human Endeavour. In cooperative cataloguing the work is shared by participating libraries; Cooperative cataloguing means that the work of producing the catalogue is shared by the participating libraries for their mutual benefit.

1. To reduce the cost of cataloguing by sharing the expenses with the participating libraries.
2. To eliminate the wasteful duplication of the processes of cataloguing.
3. To have uniformity in cataloguing practice.

### **Forms of cooperative cataloguing**

1. The Library of congress is running a cooperative programme under which the libraries send their catalogue cards for printing. The LC edits each copy and these edited copies are printed and distributed to the subscribers.

2. In 1965 the LC established a global network of national and regional offices for international cooperation. Each office is responsible for selection, acquisition and dispatch of materials published locally. These offices convert the catalogue entries according to LC practice. Then these catalogue cards are sent to the shared cataloguing division of LC where necessary editing work was done.
3. Creation of a Union catalogue on the basis of data supplied by individual libraries is a good example of cooperative cataloguing.

### Merits

1. Adequate catalogue entries are available
2. Delay in cataloguing is reduced
3. Uniformity is achieved
4. They are more legible and easy to consult
5. It saves time of the cataloguing staff so that they can be engaged in some other work
6. It is cheaper and results in saving.

### Demerits

1. It may reduce the number of skilled cataloguers in individual libraries
2. This will make the cataloguers less familiar to subjects since ready made cards are prepared.
3. Books will have to be sent to the cataloguing agency every time.

## 14.8 International Standard Bibliographic Description (ISBD)

The international meeting of the Cataloguing experts was held at Copenhagen in 1969. The delegates stressed the need for a standard method of description of books to improve international cooperation. A document called "International Bibliographic Description" was issued in 1971 and this format was accepted and adopted in many National libraries. The discrepancies in this document were discussed in the IFLA conference in 1973. As a result of this discussion two documents namely 1. ISBD (M) and 2. ISBD (S) are published.

## 14.9 Common Communication Format (CCF)

The CCF was prepared in 1984 with the support of UNESCO. The purpose of CCF is to provide a detailed and structured method for recording a number of mandatory and optional data elements in a computer-readable bibliographic record for exchange between two or more computer based systems.

The CCF is designed to provide standard format. The main purposes are (1) to permit exchange of bibliographic records between groups of libraries (2) to permit a bibliographic agency to manipulate with a single set of computer programs, the bibliographic records from libraries. (3) to serve as a basis of a format for a bibliography agency's own bibliographic databases.

Each CCF record consists of four major parts:

1. Record label
2. Directories
3. Data fields
4. Record separator.

## 14.10 International Standard Serial Number (ISSN)

An **International Standard Serial Number (ISSN)** is a unique eight-digit number used to identify a print or electronic periodical publication. Periodicals published in both print and electronic form may have two ISSNs, a **print ISSN (p-ISSN)** and an **electronic ISSN (e-ISSN or eISSN)**. The ISSN system was first drafted as an ISO international standard in 1971 and published as ISO 3297 in 1975. The ISO subcommittee TC 46/SC 9 is responsible for the standard.

## Notes

### Code format

The format of the ISSN is an eight digit number, divided by a hyphen into two four-digit numbers. The last digit, which may be 0–9 or an X, is a check digit. The ISSN of the journal *Hearing Research*, for example, is 0378-5955, the check digit is 5.

To calculate the check digit, the following algorithm may be used:

Calculate the sum of the first seven digits of the ISSN multiplied by its position in the number, counting from the right — that is, 8, 7, 6, 5, 4, 3, and 2, respectively:

$$\begin{aligned} &= 0 + 21 + 42 + 40 + 20 + 27 + 10 \\ &= 160. \end{aligned}$$

The modulus 11 of this sum is then calculated: divide the sum by 11 and determine the remainder.

If there is no remainder the check digit is 0, otherwise the remainder value is subtracted from 11 to give the check digit:

$$11 - 6 = 5$$

5 is the check digit.

An upper case X in the check digit position indicates a check digit of 10.

To confirm the check digit, calculate the sum of all eight digits of the ISSN multiplied by its position in the number, counting from the right (if the check digit is X, then add 10 to the sum). The modulus 11 of the sum must be 0.

### Code assignment

ISSN codes are assigned by a network of ISSN National Centres, usually located at national libraries and coordinated by the ISSN International Centre based in Paris. The International Centre is an intergovernmental organization created in 1974 through an agreement between UNESCO and the French government. The International Centre maintains a database of all ISSNs assigned worldwide, the *ISDS Register (International Serials Data System)* otherwise known as the *ISSN Register*. The ISSN Register contains ISSN codes and descriptions for more than one million periodicals with around 50,000 new records added yearly.

### Comparison to other identifiers

ISSN and ISBN codes are similar in concept, where ISBNs are assigned to individual books. An ISBN might be assigned for particular issues of a periodical, in addition to the ISSN code for the periodical as a whole. An ISSN, unlike the ISBN code, is an anonymous identifier associated with a periodical title, containing no information as to the publisher or its location. For this reason a new ISSN is assigned to a periodical each time it undergoes a major title change.

Since the ISSN applies to an entire periodical a new identifier, the Serial Item and Contribution Identifier, was built on top of it to allow references to specific volumes, articles, or other identifiable components (like the table of contents).

### Availability

The ISSN Register is not freely available for interrogation on the web but is available by subscription. There are several routes to the identification and verification of ISSN codes for the general public.

- the print version of a periodical typically will include the ISSN code as part of the publication information
- most periodical websites contain ISSN code information
- derivative lists of publications will often contain ISSN codes; these can be found through on-line searches with the ISSN code itself or periodical title

- WorldCat permits searching their catalog by ISSN by entering “issn:”+ISSN code in the query field. One can also go directly to an ISSN’s record by appending it to <http://www.worldcat.org/ISSN/>, e.g. <http://www.worldcat.org/ISSN/1021-9749>. This does not query the ISSN Register itself but rather shows whether any Worldcat library holds an item with the given ISSN.

## Use in URNs

An ISSN can be encoded as a Uniform Resource Name, (URN) by prefixing it with “urn:issn:”. For example *Rail* could be referred to as “urn:issn:1534-0481”. If the checksum digit is “X” then it is always encoded in uppercase in a URN.

### 14.11 Recent Trend in Cataloguing

The recent ever-expanding growth of information and information technology has forced significant change upon the theory and especially the practices of cataloguing. Cataloguers cooperate on a global basis to unify cataloguing standards, rules, and practices that enable the global sharing of information resources. To pursue professional ethics in creating timely and high quality records, cataloguers have developed a new mindset to deal with the increased complexity. Current and emerging trends in cataloguing include the use of an increasing number of online tools, the management of materials in new formats, providing multilingual options, developing metadata schemes, metadata creation, extraction, and manipulation, and cataloguing for diverse user environments and audiences.



*Task* Discuss recent developments and trends in cataloguing.

## Self Assessment

State Whether the Following Statements are True or False:

5. The information recorded in the tape form by the Library of Congress is known as “MARC TAPE”.
6. Library of Congress distributed the MARC II tapes to libraries from March 1970.
7. UNIMARK has been developed for the purpose of international exchange of bibliographic data in a machine readable form.
8. The concept of inclusion of catalogue entry in each book on publication was initiated by Dr. S. R. Ranganathan.
9. Creation of a union catalogue on the basis of data supplied by individual libraries is a good example of pre-natal cataloguing.
10. The purpose of CCF is to permit exchange of bibliographic records between groups of libraries.

### 14.12 Summary

- Under the headship of A.H. Chaplin, a committee was constituted to start the preliminary work. In 1974, the International Standard Bibliographic Description for monographic publications (ISBD M) was published.
- In a classified catalogue, the class to which the book belongs is considered as important. But in a Dictionary Catalogue the author is considered as important, *i.e.* the main entry in a Dictionary Catalogue is prepared under the author.
- Descriptive Cataloguing has been defined as “that phase of the process of cataloguing which concerns itself with the identification and description of books”.
- The information thus recorded in the tape form by the Library of Congress is known as ‘MARC TAPE’.

Notes

- The catalogue cards produce before 1949 contain excessive description cataloguing.
- In 1965 the LC established a global network of national and regional offices for international cooperation.
- The purpose of CCF is to provide a detailed and structured method for recording a number of mandatory and optional data elements in a computer-readable bibliographic record for exchange between two or more computer based systems.
- The format of the ISSN is an eight digit number, divided by a hyphen into two four-digit numbers.

### 14.13 Keywords

**Cataloguing** : A complete list of books arranged in alphabetical or systematic order.

**Union catalogue** : A union catalogue is a combined library catalogue describing the collections of a number of libraries.

**ISSN** : An International Standard Serial Number (ISSN) is a unique eight-digit number used to identify a print or electronic periodical publication.

### 14.14 Review Questions

1. Define cooperative cataloguing.
2. Explain the scope of ISBD.
3. Mention the areas identified by ISBD for the description of a document.
4. Define material area.
5. Write short notes on Dictionary Catalogue.
6. Write the functions and uses of union catalogue.
7. Illustrate the salient features of MARC.
8. Define the card service.
9. What is pre-natal cataloguing?
10. Discuss on cooperative cataloguing with its merits and demerits.
11. Brief out CCF in library cataloguing.
12. Explain ISSN and its code format.
13. What is URN?

### **Answers: Self Assessment**

- |          |           |               |         |
|----------|-----------|---------------|---------|
| 1. 1974  | 2. author | 3. dictionary | 4. TAPE |
| 5. True  | 6. False  | 7. True       | 8. True |
| 9. False | 10. True  |               |         |

### 14.15 Further Readings



*Books*

Zhang, Wenxian. *Classification for Chinese Libraries (CCL): Histories, accomplishments, problems and its comparisons*. Journal of Educational Media & Library Sciences, *The Standardization of Chinese Library Classification*, Xiaochun Liu, Cataloging & Classification Quarterly.



*Online links*

[http://www.caval.edu.au/assets/files/Research\\_and\\_Advocacy](http://www.caval.edu.au/assets/files/Research_and_Advocacy)  
[www.wikipedia.com](http://www.wikipedia.com)



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