Knowledge Organization: Classification and Cataloguing Theory

DLIS002

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KNOWLEDGE ORGANIZATION: CLASSIFICATION AND CATALOGUING THEORY

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SYLLABUS

Knowledge Organization: Classification and Cataloguing Theory

Objectives: To acquaint the students with theories and principles of knowledge organisation in libraries particularly with classification, cataloguing and indexing tools.

Sr. No.	Topic
1	Concept Of Library Classification: Definition, Need, Purpose.
2	Theory of Subjects: Basic, Compound and complex subjects.
3	Notations: Need ,Purpose and qualities, Five Fundamental categories, Devices
4	Classification Schemes : CC,DDC, UDC
5	Concept of Call Numbers : Class Number,Book Number ,Collection Number.
6	Classification Cannon/Principles of Ranganathan.
7	Library Cataloguing: Meaning, need and purpose. Physical forms and types of library catalogues.
8	Subject Cataloguing: Types of Subject catalogues, Methods of deriving Subject Heading. Chain procedure.
9	Library Catalogues Codes- CCC and AACR- II; Rules For Filling Enteries- CCC and AACR II
10	Library Cataloguing: Canons and Principles; ISBDs

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Unit 1: Concept of Library Classification

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Objectives

After studying this unit, you will be able to:

- Explain the Definition of Library Classification
- Discuss the Need and Purpose of Library Classification
- Explain the Functions of Library Classification
- Describe the Types of Library Classification
- Explain the Concept of Document

Introduction

The term 'Classification' refers to the systematic arrangement of library materials by subject matter so that subject-related materials may be brought together. Through the use of a mixed notation consisting of a combination of capital letters and numerals; the Library of Congress Classification proceeds from general to specific, so as to provide for the minutest grouping of subjects. 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

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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.

1.1 Definitions of Classification

Classification is the process of sorting of entities of a universe into sub-aggregate based on likeness and unlikeness. It is also a process of division of the entities of a universe. Classification is arranging the groups in a definite sequence. Information retrieval may involve arranging the books or papers themselves as well as the terms by which they may be retrieved. Both books and terms may be arranged by any principle (author, title, date, language, subject, size, etc.), but the most popular, useful, and difficult principle is subject. If you can retrieve information by subject, you can retrieve by anything.

Subjects can be arranged either by similarity of concept or alphabetically. If they are arranged by concept, like a detailed table of contents or the Dewey Decimal System, they make up a classification scheme. If they are arranged alphabetically, like the Yellow Pages or the index to a book, then they make up either a controlled-vocabulary list of subject headings, or a keyword list.

Classifications, which group similar topics together and have an outline format, are intended in their broad outline to cover the overall subject field completely. The number and kind of categories they provide within that outline is not fixed, however. New categories can be added and modified as new types of material come into the collection. Classifications are usually used for arranging the material itself; log or complex classification schemes may be indexed to make them easier to use.

A library classification is a system of coding, assorting and organizing documents, library materials or any information (books, serials, audio-visual materials, computer files, maps, manuscripts, realia) according to their subject and allocating a call number (clarification needed) to that information resource. Bibliographic classification systems group entities together that are relevant the same subject, typically arranged in a hierarchical tree structure (like classification systems used in biology). 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.

To understand the meaning of classification let us study a few definitions of classification given by some specialists:

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 Encyclopaedia 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.

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Notes A popular way of putting works about the same subject in roughly the same place on the shelf. Even if you don't find the book you were looking for, you'll be in the neighbourhood of other books on related topics.

Alphabetic lists of subject headings can also serve as a basis of arrangement, as for pamphlets and leaflets in the vertical files of public libraries. More often, they are used as finding aids to material arranged by some other principle. They may be simple or complex. In their fully developed form, they have "scope notes" and several kinds of cross references, are keyed to a classification system, and use a controlled vocabulary with standard terms. Subject catalogues in general libraries are of this type. They are based on, or taken entirely from, either Sears' List of Subject Headings or the Library of Congress Subject Headings List.

A simpler type of subject heading list, the keyword index, uses the words found in the documents instead of standard terms, and is more adapted to the use of computerized information retrieval. There are no keyword indexes in this supplement because they are each tailor-made for the body of information they index.

Published, pre-existing classifications and lists of subject headings are not useful for conservation or other special subject libraries, for a number of reasons. They scatter conservation among too many major categories, define terms too broadly, lack significant smaller subject categories, include only terms applicable to entire books, and so on.

Caution The alternative is to make up one's own system from scratch, which is a very time-consuming job, or to adapt a system used in a similar library.

1.1.1 Library of Congress Classification

A classification system developed and used at the Library of Congress since 1897, the Library of Congress (LC) Classification system divides the field of knowledge into twenty large classes with an additional class on general works. This notation allows more combinations and greater specificity without long notations. The Law Library, Music Library and Asian Library use LC classification schemes for all or part of their collections.

Most of the libraries at the University of Illinois at Urbana-Champaign use the Dewey call number system; you are probably familiar with these call numbers from their widespread use in public libraries. A few University of Illinois libraries, however - e.g., Asian, Law, and Music - use another system for organizing materials called the Library of Congress (LC) system.

The LC system originated in the Library of Congress, a private library for senators and representatives in Washington, to organize materials on shelves. In recent decades, as LC has made its records available electronically, more libraries have adopted LC for both shelving and cataloguing. Once an item is LC catalogued, you will need to understand the number to retrieve the physical item you have selected.

1.1.2 Nature of Classification

You can organize information by classifying it. Classification is a means of bringing order to a multiplicity of concepts or items of information, by arranging them into classes – dividing the universe of information (that is: all recorded knowledge) into manageable and logical portions.

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A class is a group of concepts that have at least one thing in common. This shared property gives the class its identity. Classifications may be designed for various purposes. They include:

1. Scientific classification
2. Classification for retrieval

Scientific classifications arrange the phenomena of the natural world as an aid to systematic study. They include the arrangements in systematic botany and zoology, and the table of chemical elements, and they often form the basis of field guides. The other kind of classification is designed for retrieval – in other words, locating the things you need. It includes documentary classifications – that is: an aid to the management of documents, in order to make information locatable. The distinctions are not watertight, and a documentary classification may incorporate scientific ones, as UDC does to some extent in Chemistry, Botany and Zoology. A document is an information carrier (2.1) – anything that is a source of information, not necessarily verbal (it could be an image or an object).

Classes may consist of various kinds of concept, such as physical things (objects, persons, places etc.) and their parts, activities, processes, abstract ideas.

Example:

1. Buildings (schools, churches, houses, etc.) - thin
2. Parts of buildings (doors, walls, stairways, etc.) - parts
3. Building services (joinery, glazing, plumbing, etc.) - activities
4. Architectural styles (classical, Georgian, etc.) - abstract ideas

A class may be further divided into smaller classes (or subclasses), and so on, until no further subdivision is feasible. So classification is likely to be hierarchic, with each level of division (except the lowest) divided into its logical subsets.

1.1.3 Classification Terminology in India

In Brussels on 16 September 1955, the General Assembly of FID adopted a resolution to prepare a glossary of classification terms. In 1957, it was recommended and agreed, each school of thought on the theory of classification should prepare the glossary of terms used by it and finally these glossaries should be collated to arrive at a Universal Comprehensive Glossary of all the classification terms. With increase in the awareness in literacy and the phenomenal expansion and in the number of libraries in the country, there was a need to have an authoritative and comprehensive glossary for the guidance of technical professional staff (in Classification and Cataloguing) working in libraries. The Documentation Sectional Committee of the Indian Standards Institution (now it is known as Bureau of Indian Standards) took up the preparation of glossary of classification terms. Not only Indian School of Thought but also other Schools of Thought in English speaking countries were taken.

The definitions in the first draft were taken from the ALA Glossary and the works of Henry Evelyn's Bliss, Donker Duyvis, S. R. Ranganathan, W. C. Berwick Sayers, B.C. Vickery and Frand S Wangner, Jr.in the second draft included only those terms that were considered by the Sectional Committee as fit for retention. These included some alternate terms and some definitions. At the third and final draft, suggestions received because of wide circulation of the second draft were considered and the final standards were prepared. This standard IS: 2550-1963 contains 23 chapters under three broad headings: Classification in general, Universe for Library Classification and Classification of the Universe of Knowledge.

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These core and basics concepts of library classification systems are enumerated under the following headings:

- Universe and Entity
- Group and Class
- Attributes and Characteristics
- Kinds of Library Classification
- Disciplines and basics subjects
- Categories, Facets and Isolates
- Arrays and Chains
- Schedules for Classification
- Species of classification for subjects
- Notation

1.1.4 Importance of Library Classification

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 catalogues, while "bibliographic classification" also covers classification used in other kinds of bibliographic databases). It goes hand in hand with library (descriptive) cataloguing under the rubric of cataloguing and classification, sometimes grouped together as technical services. The library professional who engages in the process of cataloguing and classifying library materials is called a cataloguer or catalogue 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 of a piece of work consists of two steps. Firstly, the "aboutness" 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. 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.

Classification systems in libraries generally play two roles. Firstly, they facilitate subject access by allowing the user to find out what works or documents the library has on a certain subject. Secondly, they provide a known location for the information source to be located (e.g. where it is shelved).

Until the 19th century, most libraries had closed stacks, so the library classification only served to organize the subject catalogue. In the 20th century, libraries opened their stacks to the public and started to shelve the library material itself according to some library classification to simplify subject browsing.

Some classification systems are more suitable for aiding subject access, rather than for shelf location.

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Example: UDC which uses a complicated notation including plus, colons are more difficult to use for the purpose of shelf arrangement but are more expressive compared to DDC in terms of showing relationships between subjects. Similarly faceted classification schemes are more difficult to use for shelf arrangement, unless the user has knowledge of the citation order.

Depending on the size of the library collection, some libraries might use classification systems solely for one purpose or the other. In extreme cases a public library with a small collection might just use a classification system for location of resources but might not use a complicated subject classification system. Instead all resources might just be put into a couple of wide classes (Travel, Crime, Magazines etc.). This is known as a "mark and park" classification method, more formally called reader interest classification.

1.1.5 Categories, Facets and Isolates

The Colon Classification system, like enumerative classification systems, divides the universe of knowledge into a number of main classes, such as agriculture, philosophy, and literature. Dewey Decimal Classification, for example, has ten main classes, labelled zero through nine. The Colon Classification system has 42 main classes, labelled with one or two letters of the alphabet. A few are labelled with number or Greek letters. But Colon Classification, rather than simply dividing the main classes into a series of subordinate classes, as most systems do, subdivides each main class by particular characteristics into facets. The facets, which are labelled in the Colon Classification system by Arabic numbers, are then combined to make subordinate classes as needed. For example, literature may be divided by the characteristic "language" into the facet of language, including English, German, and French. It may also be divided by "form" which yields the facet of form, including poetry, drama, and fiction.

Colon Classification contains both basic subjects and their facets, which contain isolates. A basic subject can stand alone, for example, "literature" in the subject "English literature". An isolate, in contrast, is a term that mediates a basic subject, such as the term "English." To create a class number, the basic subject is named first. The isolates follow, entered according to a facet formula. This formula states that every isolate in every facet is a manifestation of one of five fundamental categories, personality, matter, energy, space, and time. Personality is the distinguishing characteristic of a subject. Matter is the physical material of which a subject may be composed. Energy is any action that occurs with respect to the subject. Space is the geographic component of the location of a subject. In addition, time is the period associated with a subject.

Thus, the basic subject "handicrafts" of the topic "19th century woven wool Peruvian clothing handicrafts" would have the isolate from the personality facet "clothing"; from the matter facet, "wool"; from the energy facet, "woven"; from the space facet, "Peru"; and from the time facet, "19th century". Some topics have fewer than five fundamental categories. Some have more than one facet in a given fundamental category. Isolates are always arranged in order of decreasing concreteness, based on the fundamental categories. Personality is considered the most concrete and time the least concrete.

Did u know? The acronym PMEST helps the classifier remember the formula and its order.

Self Assessment

State whether the following statements are true or false:

1. Subjects can be arranged either by similarity of concept or alphabetically.

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2. A classification system developed and used at the Library of Congress since 1887.
3. Classifications for retrieval arrange the phenomena of the natural world as an aid to systematic study.

1.2 Need and Purpose of Library Classification

Various types of documents hardly need any emphasis-Libraries as service institutions acquire documents for use. These acquisitions should systematically be arranged so as to meet the ever growing needs of readers precisely, exhaustively and expeditiously. If documents are arranged in library on the basis of factors other than subject matter, the arrangement will not be helpful in meeting the requirements of the majority of readers who usually approach a library for subject material. In other words, documents should be classified and arranged on the basis of their subject content.

We are witness to the information revolution. Documents are published in various languages in various disciplines in diverse forms. Libraries have always been acquiring books and adding them to their collections. Therefore, the collection of an active library continues to grow year after year. Ranganathan compares active and effective libraries with growing organisms. In an unclassified library, when the collection grows steadily into thousands and lakhs of volumes, it would be difficult for the library staff to lay hands on a particular document required by a reader. To meet the subject approach of readers the collection must necessarily be classified by subject.

In libraries where the collection is arranged by accession number, or author or title, and not by subject, books on the same subject will be scattered throughout the collection. Even if the books are arranged alphabetically – by subject, the resultant sequence will not be helpful, as unrelated material will come together. See the following example:

Example:

- Adult education
- Agriculture
- Algebra
- Alloys
- American history
- Anthropology
- Applied mechanics
- Arithmetic
- Astronomy
- Atomic energy
- Australian history

This type of sequence of subjects surely is far less useful and will fail to meet the requirements of readers. Alphabetical sequence leads to alphabetical scattering of logically related subjects; as shown in the above example. It is through systematic arrangement that a filiatory sequence or collection of closely related subjects can be achieved. For this we require a scheme of library classification. Here is an example of arranging documents on the basis of Dewey Decimal

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Classification which brings documents dealing with different aspects of economics systematically one after another at one place in a collection.

330	Economics explained	by R. L. Heibroner
331	The economics of work and pay	by Albert Reas
332	Essentials of finance	by R. G. Jones
333	The economics of natural resources	by R. Leconber
334	Cooperative housing	by M. Digby
335	Socialism without the state	by E. Lurd
336	The fiscal system of Hong Kong	by H. C. Y. Ho
337	Building Europe: Britain's partners in EEC	by K. J. Twitchett
338	Production economics	by M. Fuss
339	Macroeconomics	by J. B. Beare

Within each class the arrangement is carried out finally and minutely, e.g.

300	Social sciences
330	Economics
332	Financial economics
332.1	Banks and banking
332.11	Central banks
331.110 954	Reserve Bank of India

Libraries stock various types of documents for different purposes. Classification helps achieve a systematic arrangement of different types of documents. In big libraries, the collection is segregated in different sections or departments. This is done for the efficient and effective use of library collections and for the convenience of different types of readers. In each department, the collection requires a classified arrangement. A Classification unclassified collection, even though equipped with necessary guides, would be of no use as the readers feel lost in the ocean of books wasting their valuable time to find documents. It has rightly been said that to locate a book in an unclassified library is as difficult as to locate a needle in a haystack. On the other hand, a systematic arrangement helps readers to get documents without loss of time. Thus the time saved by the library staff can be utilised for rendering personalized reference service for the benefit of readers.

A systematic arrangement of documents creates order out of chaos. It provides a panoramic view of documents available in a library on a given subject along with those on closely related subjects. This filiatory sequence of subjects facilitates readers not only in getting his/her documents, but also helps them know the strength and weakness of the collection. The second, third and fourth Laws of Library Science, viz., Every reader his/her document, Every document its reader and Save the time of the reader, as expounded by Ranganathan, can be practised by libraries through the systematic arrangement of documents. The First and Fifth Laws, i.e., Books are for use and A library is a growing organism also advocate a systematic classification of books in libraries.

Task Make a list of library services/operations where classification proves to be all important facility.

Self Assessment

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State whether the following statements are true or false:

4. Documents should not be classified and arranged on the basis of their subject content.
5. Alphabetical sequence leads to alphabetical scattering of logically related subjects.
6. Classification helps achieve a systematic arrangement of different types of documents.

1.3 Functions of Library Classification

Library classification encompasses a wide range of functions and the work of a Library Services Specialist typically is focused in one or more of the following core functions. Descriptions of work functions included below are not meant to be all-inclusive or indicate a specific skill level within the classification; rather, they are examples that illustrate the variety of activities that often fall under each core function.

- ***Circulation:*** Staff circulation desk and/or oversee daily circulation operations; check library materials in and out using library systems; update and maintain patron database; prepare circulation reports; follow-up on overdue materials and collect fines; handle lost and damaged materials; oversee stack maintenance; assist patrons in finding materials and with questions related to circulation policies and procedures; and resolve patron problems related to circulation functions.
- ***Interlibrary Loans:*** Handle borrowing and/or lending requests for library materials from patrons; retrieve and process requests through various joint resource sharing systems and cooperative efforts with other libraries; verify eligibility of requests; verify bibliographic information and conduct bibliographic searches related to requests; troubleshoot problem requests; compile and analyse borrowing and lending statistics; and follow-up on overdue materials and recalls.
- ***Reserves:*** Staff reserve service point and/or oversee daily operations; consult with faculty about course materials to be placed on reserve; provide assistance to faculty in organizing materials to be placed on reserve; process both paper and electronic materials to be placed on reserve; ensure that copyright requirements are met for all reserve items; maintain reserve collection, e-reserves, and related Web pages; and administer reserve module in the library system.
- ***Serials:*** Receive and process periodicals and serials in all formats using library systems and prepare them for use; identify missing items and use appropriate claiming methods to obtain missing materials; identify changes in title or status of standing order serials and periodicals and notify cataloguing; work with vendor to troubleshoot serial related problems; and monitor expenditures for serials and periodicals and verify and process serials invoices.
- ***Acquisitions and Receiving:*** Handle library acquisitions processing from ordering library materials (including print, non-print and specialized materials) to receiving and processing materials on the library system and preparing them for use; verify accuracy of materials received against orders placed; monitor acquisition expenditures and process vendor invoices for payment; troubleshoot acquisitions related problems with vendors; and compile expenditures for annual statistics and audit reports.
- ***Bindery and Book Repair:*** Perform, coordinate or supervise library's book repair, preservation, and/or bindery operations, both those performed within the library and those that are outsourced.

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- ***Cataloguing and Bibliographic Control:*** Perform copy cataloguing of library materials using the OCLC database and its utilities (on-line cooperative cataloguing system) for a selected or wider range of library materials, such as monographs, serials, periodicals, on-line journals, music scores, electronic-based materials, media materials, and other print and non-print materials; may perform original or adaptive cataloguing of selected library materials using templates or available related cataloguing records; conduct bibliographic searches; update and maintain bibliographic records on the library's systems; acquire bibliographic records from electronic resource vendors and provide access through campus on-line catalogue; and create authority control and cross reference records.
- ***Collection Development:*** Under the direction of a librarian, support collection development and management activities; assist subject librarians in identifying gaps in the library's collections based on degrees, programs and curricula and in analysing collection use statistics; perform initial review of approval book shipments; and assist in the collection development budget process.
- ***Special Collections:*** Support subject librarians in a wide range of collection development and management activities for a special collection including such areas as acquisition, organizing, processing, collection retrieval, and basic patron information and reference support; physically maintain special collection; and work with librarians to develop and maintain physical, visual and Web-based displays related to the collection.
- ***Instruction:*** Participate in library orientation activities and provide support to librarians in library instruction and information literacy programs through such activities as conducting library tours; assisting in preparing and presenting instructional materials, such as hand outs and guides; and maintaining library information Web pages.

Self Assessment

State whether the following statements are true or false:

7. In ……Control, perform copy cataloguing of library materials using the OCLC database and its utilities for a selected or wider range of library materials.
8. In……, under the direction of a librarian support collection development and management activities.
9. In……., receive and process periodicals and serials in all formats using library systems and prepare them for use are its important function.

1.4 Types of Library Classification

There are several different types of library 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 dichotomic; a classification scheme can fit into more than one category. In reality, the most frequently used types of classification schemes are:

1. ***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.
    - *Universal Decimal Classification (UDC):* Universal Decimal Classification is a bibliographic and library classification developed by the Belgian bibliographers Paul Otlet and Henri La Fontaine at the end of the 19th century. UDC provides a systematic arrangement of all branches of human knowledge organized as a coherent

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system in which knowledge fields are related and inter-linked. UDC codes can describe any type of document or object to any desired level of detail. These can include textual documents and other media such as films, video and sound recordings, illustrations, maps as well as realia such as museum objects.

- *Dewey Decimal Classification (DDC):* Dewey Decimal System first classifies books into nine broad categories, each identified by a number in the hundreds.

Example: Books on religion start are in the 200s; books on social sciences are in the 300s.

Numbers are assigned within those categories; for example, 201 are for books on the philosophy of Christianity. Some topics use the 10s column for subdivision; for example, books on law are in the 340s; books on criminal law start with 345. Further division of categories is done by adding decimal numbers. A library assigns a DDC number that unambiguously locates a particular volume to within a short length of shelving which makes it easy to find any particular book and return it to its proper place on the library shelves.

Did u know? The system is used in 200,000 libraries in at least 135 countries.

- *Library of Congress Classification (LCC):* The Library of Congress Classification (LCC) is a system of library classification developed by the Library of Congress. It is used by most research and academic libraries in the U.S. and several other countries, including Taiwan, ROC. Most public libraries and small academic libraries continue to use the older Dewey Decimal Classification (DDC). Indeed, the Taipei public library in ROC uses Dewey for English-language books. The classification was invented by Herbert Putnam in 1897, just before he assumed the librarianship of Congress. With advice from Charles Ammi Cutter, it was influenced by his Cutter Expansive Classification (developed in the 1880s) and by the DDC, Dewey (from 1876). It was designed specifically for the purposes and collection of the Library of Congress to replace the fixed location system developed by Thomas Jefferson. By the time Putnam departed from his post in 1939, all the classes except K (Law) and parts of B (Philosophy and Religion) were well developed.

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.

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2. ***National Schemes:*** National schemes specially created for certain countries. An example is the Swedish library classification system, SAB (Sveriges Allmanna Biblioteksfforening). Apart from the advantages and disadvantages of universal classification schemes the national schemes have some drawbacks as discussed below:

   - Less or unfamiliar among international users.
   - Multilingual capability is not a primary concern for national schemes, apart from countries with multiple languages.
   - National schemes are likely to have a geographic bias

3. ***Specific Classification:*** Specific subject schemes 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. Specific classification schemes for particular subjects or types of materials.

Example: These include Iconclass, British Catalogue of Music Classification, and Dickinson classification, or the NLM Classification for medicine.

- *British Catalogue of Music Classification (BCM):* The British Catalogue of Music Classification (BCM Classification) is a faceted classification that was commissioned from E. J. Coates by the Council of the British National Bibliography to organize the content of the British Catalogue of Music. The published schedule (1960) was considerably expanded by Patrick Mills of the British Library up until its use was abandoned in 1998. Entries in the catalogue were organized by BCM classmark from the catalogue's inception in 1957 until 1982. From that year the British Catalogue of Music (which from 1974 onward was published by The British Library) was organized instead by Dewey Decimal Classification number, though BCM class marks continued to be added to entries up to the 1998 annual accumulation. The schedule is divided into two main parts: A-B representing Musical literature and C-Z representing Music — Scores and Parts.

Did u know? There are also seven auxiliary tables dealing with various sub-arrangements, sets of ethnic/locality subdivisions and chronological reference points.

- *Dickinson classification*: The Dickinson classification is a library classification scheme used to catalogue and classify musical compositions. It was developed by George Sherman Dickinson (1886 - 1964), and is used by many music libraries, primarily those at University at Buffalo, Vassar, and Columbia Universities. It is fully detailed by Carol June Bradley in The Dickinson classification: a cataloguing & classification manual for music; including a reprint of the George Sherman Dickinson Classification of Musical Compositions published by Carlisle Books (1968).
- *National Library of Medicine Classification (NLM)*: The National Library of Medicine (NLM) classification system is a library indexing system covering the fields of medicine and preclinical basic sciences. The NLM classification is patterned after the Library of Congress (LC) Classification system: alphabetical letters denote broad subject categories which are subdivided by numbers. For example, QW 279 would indicate a book on an aspect of microbiology or immunology.

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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.

In terms of functionality, classification systems are often described as:

- *Enumerative Classification*: An enumerative classification of a collection of items is a complete, ordered listing of all of the items in that collection. The term is commonly used in mathematics and theoretical computer science to refer to a listing of all of the elements of a set. In statistics the term categorical variable is used rather than enumeration. The precise requirements for an enumeration (for example, whether the set must be finite, or whether the list is allowed to contain repetitions) depend on the branch of mathematics and the context in which one is working. Some sets can be enumerated by means of a natural ordering (such as 1, 2, 3, 4, ... for the set of positive integers), but in other cases it may be necessary to impose a (perhaps arbitrary) ordering. In some contexts, such as enumerative combinatorics, the term enumeration is used more in the sense of counting – with emphasis on determination of the number of elements that a set contains, rather than the production of an explicit listing of those elements.

Library Classification is the technical process:

- *Hierarchical Classification*: A hierarchy (Greek: hierarchia (ἱεραρχία), from hierarches, "leader of sacred rites") is an arrangement of items (objects, names, values, categories, etc.) in which the items are represented as being "above," "below," or "at the same level as" one another. Abstractly, a hierarchy can be modelled mathematically as a rooted tree: the root of the tree forms the top level, and the children of a given vertex are at the same level, below their common parent. A hierarchy (sometimes abbreviated HR) can link entities either directly or indirectly, and either vertically or horizontally. The only direct links in a hierarchy, insofar as they are hierarchical, are to one's immediate superior or to one of one's subordinates, although a system that is largely hierarchical can also incorporate alternative hierarchies. Indirect hierarchical links can extend "vertically" upwards or downwards via multiple links in the same direction, following a path. All parts of the hierarchy which are not linked vertically to one another nevertheless can be "horizontally" linked through a path by traveling up the hierarchy to find a common direct or indirect superior, and then down again. This is akin to two co-workers or colleagues; each reports to a common superior, but they have the same relative amount of authority. Organizational forms exist that are both alternative and complimentary to hierarchy. Heterarchy (sometimes abbreviated HT) is one such form.
- *Faceted or Analytico-Synthetic Classification*: A faceted classification system allows the assignment of an object to multiple characteristics (attributes), enabling the classification to be ordered in multiple ways, rather than in a single, predetermined, and taxonomic order. A facet comprises "clearly defined, mutually exclusive, and collectively exhaustive aspects, properties or characteristics of a class or specific subject".

Example: A collection of books might be classified using an author facet, a subject facet, a date facet, etc.

Notes

Faceted classification is used in faceted search systems that enable a user to navigate information along multiple paths corresponding to different orderings of the facets. This contrasts with traditional taxonomies in which the hierarchy of categories is fixed and unchanging.

Self Assessment

Fill in the blanks:

10. ……..codes can describe any type of document or object to any desired level of detail.
11. The …… classification is a library classification scheme used to catalogue and classify musical compositions.
12. A ……can link entities either directly or indirectly, and either vertically or horizontally.

1.5 Documents

A document is the repository of an expressed thought. Consequently, its contents have a spiritual character. The danger that blunt unification of the outer form exercises a repercussion on the contents in making the latter characterless and impersonal is not illusory. In standardizing the form and layout of documents, it is necessary to restrict this activity to that which does not affect the spiritual contents and which serves to remove a really irrational variety.

The Indian theorist S. R. Ranganathan, usually so metaphysical, took a curiously narrow and pragmatic position on the definition of "document", resisting even the inclusion of audio-visual materials, such as radio and television communications. "But they are not documents; because they are not records on materials fit for handling or preservation. Statues, pieces of china, and the material exhibits in a museum were mentioned because they convey thought expressed in some way. But none of these is a document, since it is not a record on a more or less flat surface.

Ranganathan's view of "document" as a synonym for "embodied micro thought" on paper "or other material, fit for physical handling, transport across space, and preservation through time" was adopted by the Indian Standards Institution, with a note explaining that the term "document" "is now extended in use to include any embodied thought, micro or macro and whether the physical embodiment is exclusive to one work or is shared by more than one work."

Others, also, took a limited view of what documents were. In the USA, two highly influential authors opted for a view of documents that was only an extension of textual records to include audio-visual communications. Louis Shores popularized the phrase "the generic book" and Jesse H. Shera used "the graphic record" with as much the same meaning.

Did u know? Shera was gratuitously dismissive of Briet's notion of documents as evidence.

Ordinarily information storage and retrieval systems have been concerned with text and text-like records, for example, names, numbers, and alphanumeric codes. The present interest in "multimedia" reminds us that not all phenomena of interest in information science are textual or text like. We may need to deal with any phenomena that someone may wish to observe: events, processes, images, and objects, as well as texts. If "documentation" (a term that included information storage and retrieval systems) is what you do to or with documents you work, how far could you push the meaning of "document" and or how far could you push the understanding

Notes

of the limits to "documentation"? The work of European pioneers, such as Paul Otlet and Suzanne Briet, has received renewed attention in recent years and has been related to discussion of physical forms of "information" e.g., "information-as-thing". These issues are important because mechanical information systems can only operate on physical representations of "information". This background is relevant to the clarification of the nature and scope of information systems.

Briet's rules for determining when an object has become a document are not made clear. We infer, however, from her discussion that:

1. ***There is materiality:*** Physical objects and physical signs only;
2. ***There is intentionality:*** It is intended that the object be treated as evidence;
3. ***The objects have to be processed:*** They have to be made into documents;
4. ***There is a phenomenological position:*** The object is perceived to be a document.

1.5.1 From Document to "Documentation"

In the late 19th century, there was an increasing concern with the rapid increase in the number of publications, especially of scientific and technical literature. Continued effectiveness in the creation, dissemination, and utilization of recorded knowledge was seen as a needing new technique for managing the growing literature.

The "managing" that was needed had several aspects. Efficient and reliable techniques were needed for collecting, preserving, organizing (arranging), representing (describing), selecting (retrieving), reproducing (copying), and disseminating documents. The traditional term for this activity was "bibliography". However, "bibliography" was not entirely satisfactory for two reasons:

(i) It was felt that something more than traditional "bibliography" was needed, e.g., techniques for reproducing documents; and

(ii) "Bibliography" also had other well-established meanings, especially historical (or analytical) bibliography which is concerned with traditional techniques of book-production.

Early in the 20th century, the word "documentation" was increasingly adopted in Europe instead of "bibliography" to denote the set of techniques needed to manage this explosion of documents. Woledge (1983) provides a detailed account of the evolving usage of "documentation" and related words in English, French, and German. From about 1920, "documentation" was increasingly accepted as a general term to encompass bibliography, scholarly information services, records management, and archival work.

There are numerous writings on the definition, scope, and nature of "documentation", much of it concerned with the relationships between documentation, bibliography, and librarianship. Unfortunately, many of this literature like much of the later discussion of information science and librarianship is undermined by the authors' attempts to create or amplify distinctions where the differences are not fundamental but, rather, a matter of emphasis.

Loosjes explained documentation in historical terms: "Systematic access to written texts became more difficult after the invention of printing resulted in the proliferation of texts; scholars were increasingly obliged to delegate tasks to specialists; assembling and maintaining collections was the field of librarianship; bibliography was concerned with the descriptions of documents; the delegated task of creating access for scholars to the topical contents of documents, especially of parts within printed documents and without limitation to particular collections, was documentation."

Notes

Notes After 1950, more elaborated terminology, such as "information science", "information storage and retrieval", and "information management", increasingly replaced the word "documentation".

1.5.2 From Documentation Back to "Document"

The problems created by the increase in printed documents led to the development of the techniques of documentation. However, the rise of documentation led, in turn, to a new and intriguing question that received little direct attention then or since.

Documentation was a set of techniques developed to manage significant (or potentially significant) documents, meaning, in practice, printed texts. But there was (and is) no theoretical reason that why documentation should be limited to texts; let alone printed texts. There are many other kinds of signifying objects in addition to printed texts. And if documentation can deal with texts that are not printed, could it not deal with documents that are not texts at all? How extensively could documentation be applied? Stated differently, if the term "document" were used in a specialized meaning as the technical term to denote the objects to which the techniques of documentation could be applied, how far could the scope of documentation be extended. What could (or could not) be a document? The question was, however, rarely formulated in these terms.

An early development was to extend the notion of document beyond written texts, a usage to be found in major English and French dictionaries. "Any expression of human thought" was a frequently used definition of "document" among document lists. In the USA, the phrases "the graphic record" and "the generic book" were widely used. This was convenient for extending the scope of the field to include pictures and other graphic and audio-visual materials. Paul Otlet, (1868-1944), is known for his observation that documents could be three dimensional, which enabled the inclusion of sculpture. From 1928, museum objects were likely to be included by document lists within definitions of "document".

The overwhelming practical concern of document lists was with printed documents, so the question of how far the definition of "document" could be extended received little direct attention.

Caution The occasional thoughtful writer would touch on the topic, perhaps because of interest in some novel form of signifying object, such as educational toys, or because of a desire to generalize.

Self Assessment

State whether the following statements are true or false:

13. A document is the repository of an expressed thought.
14. Briet's rules for determining when an object has become a document are made clear.
15. From 1918, museum objects were likely to be included by document lists within definitions of "document".

Notes

Case Study

UDC and Its Use: A Case Study of Libraries and Information Centres in Delhi

Library classifications are fundamental tools for organizing and exploring library collections, helping in collection browsing, items location and in the retrieval of relevant documents. UDC is a general knowledge scheme designed and developed by Paul Outlet (1869-1944) and Henri La Fontaine (1854-1943), first published in French in 1904-1907, which is still regularly maintained to keep pace with the advances of knowledge. UDC is well known in India and is often used in science and technology libraries.

Delhi, the capital of India, is known for having good libraries, documentation centres, information/library networks and LIS schools. Nowadays, there are 14 university (or the equivalent) libraries, more than 100 college libraries, a network of over 296 academic, special and public libraries and 2,888 school libraries. In Delhi there are also several other libraries of historical/national significance such as the National Science Library, of NISCAIR, the National Medical Library, the National Agricultural Library, of IARI, the National Archives Library, national documentation centres such as the DESIDOC and NASSDOC, the Library of National Museum, the Nehru Memorial Museum and Library, the Parliament Library and the Libraries of national councils such as the ICAR, ICMR, CSIR, AICTE, NCTE, RCI, DCI, ICSSR, ICHR, ICCR, ICPR, DCE, PCI, NCERT, SCERT, MCI, BCI, CCH and CCIM (these professional councils are responsible for the recognition of courses, promotion of professional institutions, providing grants to teaching, research and training in their respective fields, etc.).

DRDO (Defence Research and Development Organization) was established in 1958 from the merging of the former Technical Development Establishments (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO). DRDO was then a small organization with 10 establishments/ laboratories. Over the years, it has grown multi-directionally in terms of the variety of subject disciplines, number of laboratories, achievements and stature.

Today, the DRDO is a network of 51 laboratories which are deeply engaged in developing defence technologies covering various disciplines, like aeronautics, armaments, electronics, combat vehicles, engineering systems, instrumentation, missiles, advanced computing and simulation, special materials, naval systems, life sciences, training, information systems and agriculture. Presently, the organisation is backed by over 5000 scientists and about 25,000 other scientific, technical and supporting personnel. Several major projects for the development of missiles, armaments, light combat aircrafts, radars, electronic warfare systems etc. are on hand and significant achievements have already been made in several such technologies.

As it transpires from the statements above, DRDO has a great significance in the growth and development of technological research in the field of defence science and technology. The Defence Science Laboratory (now known as LASTEC) which is situated in Delhi is considered the mother of the Defence establishments in India. DRDO libraries are usually known by 'Technical Information Centres (TIC)' and every lab/establishment has its own TIC. To meet the information needs of the Indian defence scientists and technocrats working in the DRDO laboratories, DRDO established a national documentation centre known as Defence Scientific Information & Documentation Center (DESIDOC). The UDC has a special role within TICs of the DRDO, as the majority of them are using UDC for classifying and arranging documents. The current status of the UDC use in DRDO is given in Table 1.

Contd....

Notes

Table 1: Use of UDC in DRDO Libraries in Delhi

	Name of the Library	A	B	C	D	E
1	Defence Scientific Information & Documentation Center (DESIDOC) also called clearing house of defense information in India	IME (1993)	Y	N	NA	NA
2	DRDO Hqrs Library	IME (1993)	Y	N	NA	NA
3	Solid State Physics Laboratory (SSPL) Library	IME (1993)	Y	N	NA	NA
4	Institute of Nuclear Medicine & Allied Science (INMAS) library	IME (1993)	Y	N	NA	NA
5	Institute of System Studies and Analysis (ISSA) Library	IME (1993)	Y	N	NA	NA
6	Defense Physiological Research & Allied Sciences (DIPAS) library,	IME (1993)	Y	N	NA	NA
7	Defense Psychological Research Institute (DIPR) library	IME (1993)	Y	N	NA	NA
8	Central for Fuel, Explosive and Environmental Safety (CFEES) Library (formerly CEES and DIFR)	IME (1993)	Y	N	NA	NA
9	Defense Terrain Research Laboratory (DTRL) library	IME (1993)	Y	N	NA	NA
10	Laser Science Technology Centre (LASTEC) Library (formerly Defense Science Centre)	IME (1993)	Y	N	NA	NA

Y=Yes; NA = Not Applicable; N= NO
a) Which edition of UDC are you are using, since which year. b) Do you find it adequate to classify the kind of literature you have
c) Do you feel the need for any local extensions? d) If the organization does teaching, which edition is used and at what level.
e) Is there any UDC guide for classroom teaching?

UDC and ICAR Libraries

The Indian Council of Agricultural Research (ICAR) was founded in 1929 with its headquarters at New Delhi. It is an autonomous apex body responsible for the Organization, monitoring, funding and managing the research and education in all domains of agricultural sciences and technology in India. The Union Minister of Agriculture is the President of the ICAR. Its principal officer is the Director General who is also the Secretary to the Government of India in the Department of Agriculture Research and Education (DARE). ICAR has established various research centres nationwide in order to undertake education, research and consultancy in agricultural sciences and other related fields. The ICAR is considered the largest network of agriculture education and research institutions in the world. At present, it consist of 38 State Agricultural Universities (SAUs) and one Central Agricultural University (CAU), 5 Deemed-To-Be-Universities (DUs), 35 National Research Centres (NRC), 46 Central Research Institutes (CRI), 5 National Bureaus (NBs), 11 Project Directorates (PDs) and 90 All India Coordinate Research Projects (AICRP), all functioning under the control of the ICAR, New Delhi.

Delhi based agricultural institutions have played an important role in the growth and development of agricultural education and research in India. To the same extent, library classifications, in particularly the UDC, are of special significance for organizing knowledge in the agricultural field. The majority of the ICAR libraries in India are using UDC. The current status of the use of UDC is given in Table 2.

Table 2: Use of UDC in ICAR Libraries in Delhi

	Name of the Library	A	B	C	D	E
1	National Agricultural Library of India of Indian Agricultural Research Institute (IARI).	IME (1993)	Y	N	NA	NA
2	Indian Council of Agricultural Research (ICAR) Hqrs. Library	IME (1993)	Y	N	NA	NA
3	Indian Agricultural Statistical Research Institute (IASRI) library	IME (1993)	Y	N	NA	NA
4	National Bureau of Plant Genetic Resource Centre (NBPGR) Library	IME (1993)	Y	N	NA	NA
5	National Centre of Agricultural Economics and Policy Research (NCAP) Library	IME (1985)	Y	N	NA	NA
6	National Soil Survey & Land Use Planning (NSS&LUP) Regional Library	IME (1985)	Y	N	NA	NA
7	Krishi Anushandhan Bhawn (KAB) Library	IME (1993)	Y	N	NA	NA

Y=Yes; NA = Not Applicable; N= NO
a) Which edition of UDC are you are using, since which year. b) Do you find it adequate to classify the kind of literature you have
c) Do you feel the need for any local extensions? d) If the organization does teaching, which edition is used and at what level.
e) Is there any UDC guide for classroom teaching?

Contd....

Notes

UDC and CSIR Libraries

Having as its mission and vision "to provide scientific industrial research and development that maximizes the economic, environmental and societal benefits for the people of India", the Council of Scientific and Industrial Research (CSIR) was established in 1942 with its headquarters at Delhi, by a resolution of the then Central Legislative Assembly. It is funded mainly by the Science and Technology Ministry of India and is one of the world's largest publicly funded research and development organisations, having connections to academia and other major R&D organisations and industries. Although being funded by the Science and Technology Ministry mostly, CSIR operates as an autonomous body registered under the Registration of Societies Act of 1860. It is the largest Research and Development organization in India comprising 38 laboratories and 50 field stations/ extension centres nationwide. As with ICAR and DRDO libraries, all CSIR libraries situated in Delhi are using UDC, as given in Table 3.

Table 3: Use of UDC in CSIR Libraries in Delhi

	Name of the Library	A	B	C	D	E
1	National Science Library of NISCAIR (National Institute of Science Communication And Information Resources, which came into existence in 2004 by the merging of the INSDOC and NISCOM	IME (1993)	Y	N	NA	NA
2	Council of Scientific & Industrial Research (CSIR) Hqrs Library	IME (1993)	Y	N	NA	NA
3	Central Road Research Institute (CRRI) Library	IME (1993)	Y	N	NA	NA
4	National Institute of Science, Technology and Development Studies (NISTADS) Library	IME (1993)	Y	N	NA	NA
5	Institute of Genomics and Integrated Biology Library. (Formerly Centre for Biochemical Technology)	IME (1993)	Y	N	NA	NA
6	National Physical Laboratory (NPL) Library (the NPL is considered the mother lab of the CSIR)	IME (1993)	Y	N	NA	NA

Y=Yes; NA = Not Applicable; N= NO

a) Which edition of UDC are you are using, since which year. b) Do you find it adequate to classify the kind of literature you have c) Do you feel the need for any local extensions? d) If the organization does teaching, which edition is used and at what level. e) Is there any UDC guide for classroom teaching?

Questions

1. Critically analyse the challenging task before these libraries.
2. Write down the case facts.
3. What do you infer from it?

Source: http://www.ukrbook.net/UDC_n/st_21.pdf

1.6 Summary

- Classification is arranging the groups in a definite sequence.
- A library classification is a system of coding, assorting and organizing documents, library materials or any information (books, serials, audio-visual materials, computer files, maps, manuscripts, realia) according to their subject and allocating a call number (clarification needed) to that information resource.
- Alphabetic lists of subject headings can also serve as a basis of arrangement, as for pamphlets and leaflets in the vertical files of public libraries.
- A classification system developed and used at the Library of Congress since 1897, the Library of Congress Classification system (LC) divides the field of knowledge into twenty large classes with an additional class on general works.

Notes

- Library classification of a piece of work consists of two steps. Firstly, the "aboutness" of the material is ascertained.
- Depending on the size of the library collection, some libraries might use classification systems solely for one purpose or the other.
- In libraries where the collection is arranged by accession number, or author or title, and not by subject, books on the same subject will be scattered throughout the collection.
- Classification helps achieve a systematic arrangement of different types of documents. In big libraries, the collection is segregated in different sections or departments.
- The arrangement of documents on the shelves is in a progressive order of complexity, i.e., from the general to the specific.
- There are several different types of library classification schemes around, varying in scope, methodology and other characteristics.
- In standardizing the form and layout of documents, it is necessary to restrict this activity to that which does not affect the spiritual contents and which serves to remove a really irrational variety.

1.7 Keywords

British Catalogue of Music Classification (BCM): The British Catalogue of Music Classification (BCM Classification) is a faceted classification that was commissioned from E. J. Coates by the Council of the British National Bibliography to organize the content of the British Catalogue of Music.

Classification for Retrieval: It includes documentary classifications - that is: an aid to the management of documents, in order to make information locatable.

Classification: Classification is the process of sorting of entities of a universe into sub-aggregate based on likeness and unlikeness.

Dewey Decimal Classification (DDC): The Dewey Decimal System first classifies books into nine broad categories, each identified by a number in the hundreds.

Enumerative Classification: An enumerative classification of a collection of items is a complete, ordered listing of all of the items in that collection.

Faceted or Analytico-Synthetic Classification: A faceted classification system allows the assignment of an object to multiple characteristics (attributes), enabling the classification to be ordered in multiple ways, rather than in a single, predetermined, and taxonomic order.

Hierarchical Classification: A hierarchy is an arrangement of items (objects, names, values, categories, etc.) in which the items are represented as being "above," "below," or "at the same level as" one another.

Library Classification: A library classification is a system of coding, assorting and organizing documents, library materials or any information (books, serials, audio-visual materials, computer files, maps, manuscripts, realia) according to their subject and allocating a call number (clarification needed) to that information resource.

Scientific Classification: Scientific classifications arrange the phenomena of the natural world as an aid to systematic study.

Specific Classification: Specific subject schemes are usually created for special collections or indexing and/or abstracting services in a scientific discipline.

Notes

Universal Decimal Classification (UDC): UDC provides a systematic arrangement of all branches of human knowledge organized as a coherent system in which knowledge fields are related and inter-linked.

1.8 Review Questions

1. Define Library Classification.
2. Do you think that alphabetic lists of subject headings can also serve as a basis of arrangement? If yes, give reason.
3. Explain the nature of classification of Library Classification.
4. Discuss the importance of Library Classification.
5. Describe the Need and Purpose of Library Classification with the help of example.
6. What are the Functions of Library Classification?
7. Explain various types of Library Classification.
8. "Library Classification is the technical process." Elucidate.
9. "A systematic arrangement of documents creates order out of chaos." Discuss.
10. Throw some light on the Classification Terminology of Library Classification in India.
11. From 'Document to Documentation' and from 'Documentation back to Document'. Explain this transition.

Answers: Self Assessment

1.	True	2.	False
3.	False	4.	False
5.	True	6.	True
7.	Cataloguing and Bibliographic	8.	Collection Development
9.	Serials	10.	UDC
11.	Dickinson	12.	Hierarchy
13.	True	14.	False
15.	False		

1.9 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990 – 1991."* Concept Publishing Company.

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Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://drtc.isibang.ac.in:8080/bitstream/handle/1849/44/Paper-CE.PDF?sequence=2

http://facweb.northseattle.edu/jwu/lib150jw/OnlineTextbook/chap2.html

http://www.edurite.com/kbase/importance-of-library-classification

http://www.edurite.com/kbase/importance-of-library-classification

http://www.library.illinois.edu/learn/intro/organization.html

Unit 2: Theory of Subjects

Notes

CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Concepts of Subjects and Segments and Their Types and Characteristics
- Discuss the Modes of Formation of Subjects

Notes

- Explain the Identification of a Basic Subject
- Discuss the Concepts of Compound and Complex Subjects

Introduction

In the previous unit, we dealt with definition, need and purpose, functions and types of Library Classification along with the concept of Document. Library service is, in essence, the retrieval and dissemination of embodied knowledge to individual members and groups in a community. Hence, the two essential parameters which affect the value of library services are Universe of Readers and Universe of Subjects. In order to achieve efficiency of services to readers, it has become imperative to adopt and develop such tools and techniques which would facilitate the classification of subjects embodied in documents and thus help in retrieval and service to the satisfaction of the laws of library science. But, for this to happen, it is essential that the discipline of library science must keep developing itself to meet changes in the value of each of the parameters.

2.1 Concept of Subject

The concept 'subject' has been defined by many based on their own viewpoint of the concept. Some of the definitions of 'subject' are:

(i) A matter or topic that forms the basis of a conversation, train of thought, investigation, etc.

(ii) A branch of knowledge as a course of study.

(iii) A branch of learning.

(iv) A branch of knowledge studied or taught in a school, college or university.

(v) An organized body of ideas, whose extension and intension are likely to fall coherently within the field of interests and comfortably within the intellectual competence and the field of inevitable specialization of a normal person'.

(vi) A subject is an organized and systematized body of ideas. It may consist of one idea or a combination of several.

There are many other definitions. However, for this paper these definitions are likely to suffice. The first and third definitions are broad and OK. The second and fourth definitions link the 'subject" with a course of study in a school, college or university which may not be true always. The subject forming a course of study in academic institutions is now called a 'discipline'. The first paper on bibliometrics was published in 1917 by Cole and Eales. Papers on the subject continued appearing ever since. But, the subject did not become a course of study even after 50 years. Hence, the definitions are not free from shortcomings.

The fifth and sixth definitions consider a subject as an organized (and systematized) body of ideas. This definition is also not free from faults.

Notes At a particular point of time, a scientific subject is born usually in the form of a research paper, a patent, a short communication, a piece of thought expressed, etc.

Notes

Initially, it is not known whether the subject will grow further or not. If it has a promise more researchers start working on it, and the subject starts growing and the literature on the subject starts appearing in a scattered way in different journals, conference papers, and so on. At a later stage, the scattered literature is gleaned, examined, and a review paper or a book is written where the ideas pertaining to the subject are organized and systematized and in some cases the subject is given a name. Take for example a new area like 'nanotechnology' that has just started developing. Ideas on this subject are gradually getting organized. It is not yet known in how many dimensions this subject will expand. Hence, in the very beginning, the ideas of a nascent subject is usually not organized or systematized.

In view of what has been said above, a new definition of 'subject' is being advanced here. A subject comprises a segment or segments of the universe of knowledge. A subject can be composed of a single segment like physics or any division or subdivision of it; double segments like science and technology, multiple segments like physical sciences, and so on.

2.1.1 Characteristics of a Subject

Characteristics of the subject are as follows:

(i) A subject possesses all the characteristics that a segment possesses.

(ii) A subject is identified by a name, a notation, or a symbol. For example: Iron is a name; its notation in UDC is 546.72; and its chemical symbol is Fe.

(iii) The name can be composed of a single keyword like physics, or a set of keywords like solid fuel rocket engine.

(iv) The name of a subject is a noun that at times can have one or more qualifiers or modifiers. Examples: Analytical chemistry; Fast neutron; etc. In the examples 'analytical' is a qualifier; 'fast' is a modifier.

(v) The word or words that denote a subject can act as a subject heading.

(vi) The name of a subject sometimes undergoes change due to various reasons. For example, the name of our profession has evolved in the following way: Library economy → Librarianship → Library science → Library and information science → Library and information studies, etc. Now, in many cases, it is referred only as Information science/s. With the advent of space age, the name of the subject Aeronautical engineering has changed to Aerospace engineering. Elsewhere, Bombay has been named as Mumbai, Madras as Chennai, and Calcutta as Kolkata.

2.1.2 Subject System

The concept of a subject system has already been defined. In the solar system, there is the Sun, planets, satellites, asteroids, solar comets, action, space, and time. In other words, one can say that in the system there are objects (the sun, planets, etc.); action (planets, satellites, etc. are all moving); space (the entire system occupies a huge amount of space. Pluto is about 7.2 billion km from the Sun); and time. (It is believed that the system is existing for 4.5 billion years. In Prolegomena the subject system has to a certain extent been described as loose assemblage under Formation of subjects.

Task Visit National Library of India and do a research on the subject systems and prepare a small report.

Notes

Types of the Subject System

Numerous types of subject system are possible, binary, ternary, quaternary and so on. Some of the binary, ternary and quaternary subject system types are enumerated below with examples. The list is highly selective and not at all comprehensive.

Binary subject system types:

(i) Object-object subject system, e.g. Religion and philosophy

(ii) Object-action subject system, e.g. Classification of books

(iii) Object-space subject system, e.g. Geography of India

(iv) Object-time subject system, e.g. Medicine in 20th century

(v) Action-action subject system, e.g. Classification and cataloguing

(vi) Action-space subject system, e.g. Explosions in the galaxies

(vii) Action-time subject system, e.g. Political movement in 1970s

(viii) Space-space subject system, e.g. India and Pakistan

(ix) Space-time subject system, e.g. India after independence

(x) Time-time subject system, e.g. Year 2006 and year 2007 – a comparison

Ternary Subject System Types

(i) Object-object-object subject system, e.g. Geology, mining and metallurgy – the inseparable trio

(ii) Object-object-time subject system, e.g. Electricity and magnetism in 20th century

(iii) Action-action-action subject system, e.g. Automation of classification and cataloguing

(iv) Space-space-space subject system, e.g. India, Pakistan and Bangladesh in the perspective of world politics

(v) Time-time-time subject system, e.g. Autumn, winter and spring – the lovely seasons

Quaternary Subject System Types

(i) Object-object-object-time subject system, e.g. Geology, mining and metallurgy in 20th century

(ii) Time-time-time-space subject system, e.g. Autumn, winter and spring in England.

Ranganathan has identified this system as loose assemblage and considered the system as one of the modes of formation of subjects. It should be noted that the formation of a subject and formation of a subject system are two different processes. When two or more segments join together loosely a subject system is born, say, physics in 20th century. In case they join together firmly, another segment is formed, e.g. biochemistry.

Birth of a Subject

Ranganathan developed the idea of the formation of various subjects. Neelameghan dwelt on Ranganathan's ideas and presented them in a lucid way. The birth of a subject is associated with the birth of a segment in the universe of knowledge. The birth and formation of various segments have been described below that explain the formation of subjects.

Notes

Hence, to understand the concept of subjects even better you first need to understand segments that are explained in the next section of this unit.

2.1.3 Modes of Formation of Subjects

The modes of formation of subjects that have been recognized are:

1. Lamination
2. Loose Assemblage
3. Fission
4. Fusion
5. Distillation
6. Clustering
7. Agglomeration

Lamination: Lamination is construction of two layers just like a sandwich. According to Ranganathan when the basic layer is a basic subject and the other layers are isolate ideas a compound subject is formed. Lamination is of two types:

1. ***Lamination 1:*** In this mode, one or more isolate facets are laminated over a basic facet. This gives a compound subject.
2. ***Lamination 2:*** In this mode, two or more sub-facets of a compound facet are laminated over one another. Such subjects were earlier called as non-main basic subjects, the components of which included host main subject. The later had the canonical/special/ environment/system component.

Loose Assemblage: This is assembling of two or more of (a) subjects (basic or compound) (b) isolate idea.

Fission: Fission is the process of division or splitting or breaking up into parts. This process has, until recently, been denoted by the "dissection". However, dissection usually implies the splitting, breaking up of an entity into parts by an outside agency. On the other hand, fission is an internal process of division without the involvement of an outside agency.

Fusion: Fusion is the emergence of new ideas and new subjects of an interdisciplinary character. For example: Astrophyshics it is the emergence of two subjects like Astronomy and Physic.

Distillation: It extracts the basic subjects from compound subjects.

Clustering: It is forming a group of similar entities of relationship with each other or their simultaneity of occurrence or for convenience in treatment or discussion.

Agglomeration: It may be made up of consecutive constituents or even non-consecutive constituents with respect to a classification scheme.

Self Assessment

Fill in the blanks:

1. A subject is an organized and systematized body of ……..
2. A subject possesses all the characteristics that a …….. possesses.
3. The subject system has to a certain extent been described as loose ……..

Notes

2.2 Segments

Segment is a part of the universe of knowledge that harbours a subject and sometimes acts as a component of a subject system.

2.2.1 Characteristics of Segments

The segments comprising the UoK have some characteristics which may be enumerated as below:

(i) A segment is born simultaneously with the birth of a subject.

(ii) A segment does not possess a constant shape or size. Both may undergo change with the passage of time.

(iii) There are four categories of segments such as objects, action, space and time. The segments are briefly described:

- Object segment includes all nouns, except space and time. An object may be concrete, e.g. an author; or abstract, e.g. mathematics. It may be animate, e.g. a tiger; or inanimate, e.g. a mineral. The content of a segment will be a subject. All these objects can have qualifiers. Examples – poet Rabindranath, pig iron, theoretical physics, etc.
- Action segment includes verbs. Of course, the subject heading takes the form of a verbal noun. Examples: Diagnosis, treatment, classification, cataloguing, etc. The content of the segment can also become a subject. All actions can also have qualifiers. Examples: X-ray diagnosis, heat treatment, broad classification, prenatal cataloguing, rapid cooling, slow burning, etc.
- Space segment includes geographical as well as astronomical space. Examples – India, Delhi, sky, space, etc. The content of the segment can become a subject. Like object and action, space can also have qualifiers. Examples: North India, south Delhi, blue sky, dark space, etc.
- Time segment includes time in all its manifestations. Examples – century, year, month, season, etc. The content of the segment can become a subject. Example: Year 2007. This segment can also have qualifiers. Examples – 20th century, calendar year, productive month, spring season, etc.

(iv) A segment harbours a subject and has its own identity, location (viewed from different angles, the location seems different) and comfortably separated by space from one another.

(v) All segments are bound by invisible bonds. It is not possible to predict at what time and location, bonds between two or more segments will become stronger, and they will share some areas to give rise to a new segment.

(vi) As far as consistency is concerned, there are three categories of segments. Segments of the first category are well-formed having more or less identifiable size and shape, well-recognized by the academic bodies, and taught in academic institutions, e.g., physics. The segments in formative stage fall in the second category, e.g. nanotechnology. They are yet to take a definite shape, and are at different stages of development. Some might have been recognized by the academic community and are on the verge of finding a place in the school or college curriculum. The third category is nebulous, e.g. astrology, palmistry. Despite having their more or less identifiable size and shape, they are not generally recognized by the academic community; neither they find a place in regular school or college curriculum.

Notes

(vii) A segment is capable of splitting into numerous subdivisions, and each subdivision into further subdivisions, and so on whose number cannot be predicted in advance.

(viii) Each segment is capable of sharing a portion of its content without losing the same. It is analogous to human beings' sharing of knowledge.

(ix) Each segment passes through the stages of creation (sristi), stability (shtiti), and decay or destruction (laya).

(x) A segment can appear at any part of the UoK as cloud forms in the sky the moment the situation becomes ripe for the same. The birth of a segment indicates the birth of a subject.

2.2.2 Types of Segments

Singular Segment

There are types of singular segments: unifocal, bifocal and multifocal. A unifocal segment is devoted to a single subject like physics. A bifocal segment deals with parts of two subjects, e.g. bioengineering. A multifocal segment is formed by drawing materials from several subjects, e.g. medical biochemistry.

Binary Segments

Like binary stars there are binary segments as well. Both harbour independent subjects that are closely linked. Examples: Science and technology, language and literature, electricity and magnetism, etc.

Books may appear on binary segments depicting various aspects including general description, similarities, difference, comparison, influence, bias, etc. Take for example the two planets Jupiter and Saturn. On these planets the following types of books are possible:

(a) Jupiter and Saturn – a general description

(b) Similarities between Jupiter and Saturn

(c) Differences between Jupiter and Saturn

(d) Jupiter and Saturn – a comparison (describing both similarities and difference)

(e) Influence of Jupiter on Saturn

There are books which betray clear bias, for example – children's encyclopaedia, weaving for ladies, mathematics for engineers and so on.

Cluster Segments

In the universe, star clusters are but common. The same is the case with the UoK. Here also several segments are found together harbouring different subjects – all maintaining their own identities. Examples: Physical sciences, biosciences, etc.

Cyclopaedic Segment

This type of segment draws material from all or many segments to form a single segment as we find in general encyclopaedias, general periodicals, books on general knowledge, etc.

Notes

Affinitive Segment

An affinitive segment has a tendency to attach itself to another segment without becoming a part of the attaching segment. Take for example, librarianship. It can attach itself to segments like medicine and agriculture giving rise to medical librarianship and agricultural librarianship. But, librarianship does not become a part of medicine or agriculture. Management, journalism, automation, etc. also belong to this category.

Comprehensive Segment

This segment harbours a subject with all its aspects. Take for example, a dictionary of petroleum. Within this dictionary one will find words pertaining to economics of petroleum, chemistry of petroleum, geology of petroleum, mining of petroleum, refining of petroleum, storage of petroleum, transportation of petroleum, and so on. A comprehensive segment on petroleum will include all its aspects.

Form-based Segment

The matter pertaining to a subject can be presented in various forms such as a dictionary, a textbook, and a monograph. Many a time, a subject develops basing a form, e.g. lexicography. Form-based segment harbours such a subject.

Invention-based Segment

The moment an invention takes place generally a patent is produced. That gives rise to a segment in the UoK. Example: Spectroscope. The use of the invention at times gives rise to another segment, e.g. spectroscopy. Spectroscope and spectroscopy are two different subjects.

Self Assessment

Fill in the blanks:

4. Space segment includes geographical as well as …….. space.
5. A segment harbours a …….. and has its own identity.
6. A segment can appear at any part of the ……
7. An …….. segment has a tendency to attach itself to another segment without becoming a part of the attaching segment.

2.3 Identification of a Basic Subject

A subject is an organised or systematized body of ideas, whose extension and intension are likely to fall coherently within the field of interest and comfortably within the intellectual competence of and the field of inevitable specialisation of a normal person. The term Basic Subject basically applied in order to depict either primary or non-primary basic subject.

In order to give unique co-extensive representation to each subject in the UoS (Universe of Subjects), the classificationist has to ascertain the various attributes - infinite, turbulently dynamic, continuum, manifold multidimensional quality, different modes of formation of subjects, etc., in the UoS that affect library classification. While many of the above mentioned attributes are self-explanatory, the attribute "modes of formation of subjects is complex.

Notes

Basic Subject denotes a traditional division of a main subject. The traditional division is denoted by the term "canonical constituent".

Example:

C3 Sound

C4 Heat

C5 Radiation

This denotes a division of a main subject (MS), in which the subject of the study is restricted in some special manner, not amounting to any of the anteriorising common isolates or any other isolate ideas. This special division is denoted by the term "special constituent" of the MS. Generally, the class number for a special BS is got by the enumeration device.

The initial set of primary basic subjects (PBS) included in a scheme for library classification results from a division/fission of the UoS in a manner similar to the division of the UoS by scholars among themselves as convenient fields of specialisation. It may not be possible to discern a specific characteristic used in this initial division.

In the past, in the Universe of Documents, the general trend has been to narrow the extension of a subject embodied in a document taken as a whole. Therefore, there has been a general tendency not to bring into one and the same document, compound subjects going with the different basic subjects, except in the case of complex subjects involving phase relation and the subjects involving the use of subject device in forming or sharpening isolate facets. In recent years, however, interdisciplinary team research has often, for practical convenience, necessitated bringing together in one and the same document two or more compound subjects going with different BS.

Example: For the convenience of organising research, the preliminary results and data obtained in work falling in different subject fields involved in the study of one phenomenon or entity may be brought together in one and the same document and treated disjunctively 7 that is, without any substantial integral treatment. Subsequent elaboration of the work falling in different subject fields may be by specialists in the respective subjects and the results may be published separately. The document in which the preliminary results are brought together just as in a collection, taken as a whole, presents a subject field in which there is a core entity of study with inputs or viewpoints or work on it coming from specialists in subjects going with diverse BS. This feature is something like clustering around a nodal idea – that is, forming a group of similar entities, because of their relationship with each other, or their simultaneity of occurrence or for convenience in treatment or discussion.

Until recently, Information Consolidation Products (ICP) were prepared by subject specialists themselves on the basis of the documents furnished by libraries and information centres. But with advances made in the head of library and information science, especially in the techniques of organising and displaying information, the Library and Information Science (LIS) personnel have started playing a dominant role in the preparation of ICPs. But, for them to play an useful role, the following prerequisites become necessary:

- Familiarity with the different aspects of the subject;
- Familiarity with reader's requirements on the subject of his pursuit; and
- Knowledge of the helpful methods of presentation of ideas in an ICP.

The majority of the queries/questions that LIS personnel will have to deal with are about

Notes

subjects. An answer to such a query, in whatever form it may finally be presented to suit the requirements of the reader, will be derived from the subjects embodied in documents. Therefore, the LIS personnel should become familiar with the subjects they have to deal with predominantly. The more intensive the knowledge they have of the subjects, the more helpful it will be in making the information services productive.

Obviously, such knowledge of all the subjects cannot be acquired by one person. A person with a basic background in a subject – say, at the graduate or post-graduate level – can build upon it through experience, such as doing research and/or teaching the subject, But the LIS personnel's work does not admit of doing research simultaneously (other than in library and information science). Further, it is not the intensive specialisation in a narrow region of a subject that will be useful in the work of the LIS personnel. What they require is a broad perspective that is, the highways and byways of the different subjects with which their clientele are concerned.

In general, the kind of knowledge that the LIS personnel should gain about the subjects may be specified as follows:

- Scope of the subject as a whole;
- Its main branches and subdivisions within each branch and the scope of each of them;
- The ideas generally falling in relation to the subject and their grouping in relation to the branches and subdivisions within each branch of the subject;
- The interrelation between the component ideas and the relevant characteristics on the basis of which they can be grouped;
- The landmarks in the evolution of the subject: the important contributors and their respective contributions;
- The state-of-the art and trend in each of the different branches of the subject;
- The interrelation of a subject with other subjects; and
- The technical terminology of each of the different subjects.

Self Assessment

State whether the following statements are true or false:

8. Basic Subject denotes a …… division of a main subject.
9. Information …… products were prepared by subject specialists.
10. The majority of the queries/questions that LIS personnel will have to deal with are about ……

2.4 Primary Basic Subject

Primary basic subject is a classification of subjects that covers several fields mentioned in the UoS and normally it is easy and supportive to start with the formation and listing of a primary set of basic subjects. A basic subject in this set is a primary basic subject. Primary basic subjects can be formed by the following modes of formation:

(a) Fusion, Distillation (Kind 1 and Kind 2)

(b) Fusion and Clustering.

Notes

2.4.1 Canonical Primary Basic Subject

The primary set of primary basic subjects included in a scheme for library classification are formed by the division of the, universe of subjects by fission. These basic subjects are postulated by the classificationist. Therefore, the resulting divisions have been called traditional or canonical primary basic subjects.

Fission: Mode of formation of the first set of primary basic subjects is by fission. Fission is the process of division, or splitting, or breaking up into parts. It is an internal process of division without the interference of any outside agency.

Example: Colon classification 1 (1933) enumerated the following set of primary basic subjects:

Generalia

A Science (General)	B Mathematics	C Physics	D Engineering
E Chemistry	F Technology	G Biology	H Geology
I Botany	J Agriculture	K Zoology	L Medicine
M Useful arts	N Fine arts	O Literature	P Linguistics
Q Religion	R Philosophy	S Psychology	T Education
U Geography	V History	W Political science	X Economics
Y Sociology	Z Law		

2.4.2 Distilled Primary Basic Subjects (Kind 1)

The idea of "management" can take place in a diversity of subjects along with different primary basic subjects. A theory of management has been distilled out and people have started specializing in this area. Consequently, it has been found convenient to deem management as a primary basic subject. This has been formed through distillation of Kind 1.

Example: The following have been enumerated as primary basic subjects: systematology, management science, metrology, standardization, research methodology, conference technique and so on.

2.4.3 Distilled Primary Basic Subjects (Kind 2)

In the case of the distillation mode (Kind 1), "the new primary basic subject essentially accommodates the theory, that is, the relevant set of postulates, and guiding principles of the discipline emerging or distilled out of an idea occurring as a practice-in-action in subjects going with diverse subjects.

Caution "India" represents an isolate idea. By itself, it cannot form a subject. However, it can form a component of other subjects, for example, the agriculture of India, the culture of India, the education in India, the socio-economic structure of India and so on. Each of these forms an area of specialization which can be pursued by a specialist. Normally, no single person would be able to pursue all these fields at a specialized level.

Notes

In distillation of Kind 2, the idea occurs in subjects going with a particular basic subject only and there may be a trend towards the formulation of a new discipline with recognizable literary warrant and, perhaps, some principles and postulates for guiding its development.

Example: Statistical calculus, operations research, information theory, cybernetics, foundry, welding, cytology, etc.

2.4.4 Fused Primary Basic Subjects

Interdisciplinary research has led to the emergence of new ideas and new subjects of an interdisciplinary character. In the initial stage, interdisciplinary subjects may be placed with one of the primary basic subjects. But later, a classificationist may deem it necessary to postulate a new primary basic subject. This is thus formed through fusion.

Example: Astrophysics, astrochemistry, astrobiology, biomechanics, biophysics, biochemistry, geophysics, geochemistry, econometrics, sociocybernetics, etc.

2.4.5 Primary Basic Subject by Clustering

"When an idea becomes the focus of study from the viewpoint of specialists in different subject fields, and the results of their investigations are brought together in a document, and when specialists begin to ask for such a collection by the name of the core idea of study, the need arises to assign the core idea to single basic subject. Further, the treatment of the core idea from different specialists' viewpoints may not remain disjunctive and separate, but there may arise interdisciplinary ideas and subjects, and greater integral relation among the subjects embodied in the document."

Example: Japanese studies, Indology, European studies; Gandhian studies, Vinoba studies; Gold (in all its aspects), peace research, leisure research, surface science, materials science, ocean sciences, space sciences.

2.4.6 Non-primary Basic Subjects

These are all formed from primary basic subjects. Also, they do not have an independent existence. We may recognize the following varieties of non-primary basic subjects:

(a) Secondary basic subject by fission of primary basic subject.

(b) Compound basic subject by lamination of Kind 2.

(c) Agglomerate basic subject.

2.4.7 Secondary Basic Subject by Fission of Primary Basic Subject

In the development of subjects, a point is reached when the number and variety of subjects going with a particular primary basic subject of any one variety (as described earlier) might be too large, and also non-homogeneous to form a convenient field of specializations. Thus, a further division may become necessary. The division, by fission, of a field of specialization, going with a primary basic subject leads to canonical divisions of the primary basic subject concerned. These divisions have been named as secondary basic subjects of order 1.

Notes

Example: Under Physics (fissioned primary basic subject), we have fundamentals, properties of matter, sound, heat, radiation, electronics, electricity and magnetism (all secondary basic subjects).

Under Geophysics (fused primary basic subject), we have subjects like volcanology, seismology oceanology, etc. (all secondary basic subjects). We may recognize two varieties of secondary basic subjects as below:

(a) Secondary basic subjects of Order 2.

(b) Compound secondary basic subjects.

2.4.8 Secondary Basic Subjects of Order 2

We have already seen that secondary basic subjects of 'Order 1' can be formed by the fission of a primary basic subject. It is possible to achieve secondary basic subjects of 'Order 2' by dividing 'Order 1' further, by means of fission, if required.

Example: Atmospherology belongs to Order 1 and meteorology, agronomy, ionosphere studies to Order 2.

2.4.9 Compound Secondary Basic Subjects

Attachment of speciator (that is, lamination of Kind 2) to a secondary basic subject leads to compound secondary basic subjects: The following varieties of compound secondary basic subjects are possible:

(a) Specials compound secondary basic subjects,

(b) Environmental compound secondary basic subjects,

(c) Systems secondary compound basic subjects.

Example: Physics, properties of matter and low temperature environment (here, physics is a primary basic subject, properties of matter is a secondary basic subject derived by fission from physics and low temperature environment is a speciator). Economics, consumption-capitalist system (here economics is a basic subject, consumption is a secondary basic subject and capitalist system is a speciator).

2.4.10 Compound Basic Subject by Lamination (Kind 2)

In order to achieve divisions of a primary basic subject, one can use a specific-explicit characteristic, "The ideas derived on the basis of a characteristic are used to qualify or speciate the totality of the subjects going with the primary basic subject concerned. Here, each of the ideas derived on the basis of a characteristic is called a speciator. The attachment of a speciator to the primary basic subject to be qualified is called compounding or lamination of Kind 2." This leads to primary basic subjects or compound basic subjects. A variety of compound basic subjects recognized on the basis of variety of the speciators used in lamination are as follows:

(a) Specials compound basic subjects.

(b) Environmental compound basic subjects.

Notes

(c) Systems compound basic subjects.

(d) Multiple compound basic subjects.

2.4.11 Specials Compound Basic Subjects Notes

"The core entity of study in the subjects going with a particular primary basic subject may be restricted or qualified using speciators derived on the basis of relevant characteristics specific to the subjects concerned, not amounting to any of the anteriorising isolates or any other isolate." This is how specials compound basic subjects come up.

Example: Medicine-child; Medicine-adolescent; and Medicine-old age are examples of specials compound basic subject.

Medicine is a primary basic subject. The core entity of the study of the subjects going with medicine consists of the human body and its organs. The study of the core entity (that is the human body and its organs) can be restricted or qualified by the use of speciator derived by means of relevant characteristics such as "by age," "by sex" and so on. Thus, the speciators derived on the basis of "relevant" characteristics can be attached to the primary basic subjects for qualifying the totality of the studies falling within it is purview, leading thereby to the specials compound basic subjects. Before deriving speciators take care of the basic characteristics like subjects or topics.

2.4.12 Multiple Compound Basic Subject

"The studies in subjects going with a primary basic subject can be qualified or restricted using successively speciators derived on the basis of two or more of the variety of characteristics mentioned in the preceding sections—that is specials characteristic, environment characteristic, and systems characteristic." The speciators can be attached in the prescribed sequence to the concerned primary basic subject, and, thus, obtaining multiple compound primary basic subjects or multiple compound basic subjects.

Did u know? Ayurvedic system originated from India. Unani system is originated from Unan (Egypt).

2.4.13 Agglomerate Basic Subject

"An agglomerate of Kind 1(earlier called partial comprehension) consists of subjects treated integrally or disjunctively in one and the same document. Agglomerate results from a process of agglomeration—that is collecting together of entities into larger masses without cohesion among the components. Agglomerate can be a basic subject—that is the first component in representing a subject." The scope of an agglomerate basic subject has to be understood only with reference to the scheme concerned. Ordinarily, an agglomerate of Kind 1 covers subjects going with the successive primary basic subjects of a scheme.

Example: Natural science, Mathematical sciences, Physical sciences, Social sciences, History and Political science.

"Agglomerate of kind 2 is an agglomerate comprehending subjects going with non-consecutive primary basic subjects with respect to the schedules of a particular scheme for classification."

Self Assessment

Notes

Fill in the blanks:

11. Primary basic subject is a classification of subjects that covers several fields mentioned in the ……..
12. Mode of formation of the first set of primary basic subjects is by ……..
13. The idea of "management" can take place in a diversity of …….. along with different primary basic subjects.
14. …….. can be a basic subject, that is the first component in representing a subject.

2.5 Compound and Complex Subjects

In this section of the unit you will get an insight on the compound and complex subjects.

2.5.1 Compound Subject

The term 'Compound Subject' denotes a subject with a Basic Facet – this is compulsory – and one or more Isolate Facets added after it. For example, "Cure of inflammation of eyes in a human-being". This is a Compound Subject going with the Basic Facet Medicine. This Basic Facet is represented in the name of the Compound Subject by the term 'in a human-being'.

In the Indian Theory of Classification, Personality, Matter, Energy, Space, and Time are postulated to be the Five Fundamental Categories, of one, and only one of which, an Isolate Facet in a Compound Subject is deemed to be a manifestation. For example in the Compound Subject mentioned in the preceding section:

- The isolate "Eyes" is deemed to be a manifestation to the Fundamental Category "Personality";
- The isolate "Inflammation" is deemed to be a manifestation of the Fundamental Category "Matter (Property)";
- The isolate "Cure" is deemed to be a manifestation of the Fundamental Category "Energy".

2.5.2 Complex Subjects

A subject in which two or more basic subjects or compound subjects or basic subjects and compound subjects are brought into relation is called a Complex Subject. The following are some examples:

- "Calculus for Electrical Engineers". Here, the subject of exposition is "Calculus". The subject "Electrical Engineering" biases the exposition. It is called the 'Biasing Phase'. "Calculus" is Phase 1 and "Electrical Engineering" is Phase 2. The relation is called 'Bias Phase Relation'.
- "Mathematical Study of Investment". Here, "Investment" is Phase 1. "Mathematics" is Phase 2. It is called the 'Tool Phase'. The relation is called 'Tool Phase Relation'. This concept was abandoned for some time. It is now found necessary to revive it.
- "Buddhistic influence on early Christian Rituals". Here, "Christian Rituals" is Phase 1. "Buddhism" is Phase 2. It is called the 'Influencing Phase'. The relation is called 'Influencing Phase Relation'. Apart from stating here that a Scheme for Classification should have provision for the representation of Complex Subjects, these subjects do not call for any further remarks in this paper.

Notes

Self Assessment

Fill in the blanks:

15. The term 'Compound Subject' denotes a subject with a …… facet.

16. A subject in which two or more basic subjects or compound subjects or Basic Subjects and Compound Subjects are brought into …… is called a Complex Subject.

Case Study

Wikipedia

As everyone needs all news and information from different sources in order to develop their own livelihood, make a living including level up the country. Internet is one of the important tools, which present information correctly, quickly, efficiently and collect all information. However, Internet service is classified without any standards support and specified into groups based on only one group and not for the overall. For classifying the content of Wikipedia, which has categorized the main contents into 12 major groups as follow: (i) i.e. General reference, (ii) Culture and the arts, (iii) Geography and places, (iv) Health and fitness, (v) History and events, (vi) Mathematics and logic, (vii) Natural and physical sciences, (viii) People and self, (ix) Philosophy and thinking, (x) Religion and belief systems, (xi) Society and social sciences, (xii) Technology and applied sciences.

Wikipedia classification group is without any international standards support and specify into the group based on only one group as shown in Figure 1. The popular classifying information systems used in the library are Library of Congress Classification (LCC) of DR has divided into 20 main classes which use an alphabetic is a symbol. Herbert Putnum, Dewey Decimal Classification (DDC) by Melvil Dewey has 10 main classes and use an alphabetic is a symbol. In the present, the classifying of articles or books is categorized only into a group which is proposed in the previous research as Dewey Decimal Classification Multiple Relations (DDC-MR). So, that it can recognize the contents of other groups hidden in the articles or books. In this paper, the researcher is using the Dewey Decimal Classification Multiple Relations (DDC-MR) for analyzing the contents of the articles in Wikipedia. In order to, synchronize the search of the contents in the Wikipedia system and the articles in the library with better format and speed. As a result, this connection of the content of the article in Wikipedia is international instead of search by Keyword. In addition, this connection is able to search the article from the library in which the same contents precisely and systematically.

Figure 1: Wikipedia Classification

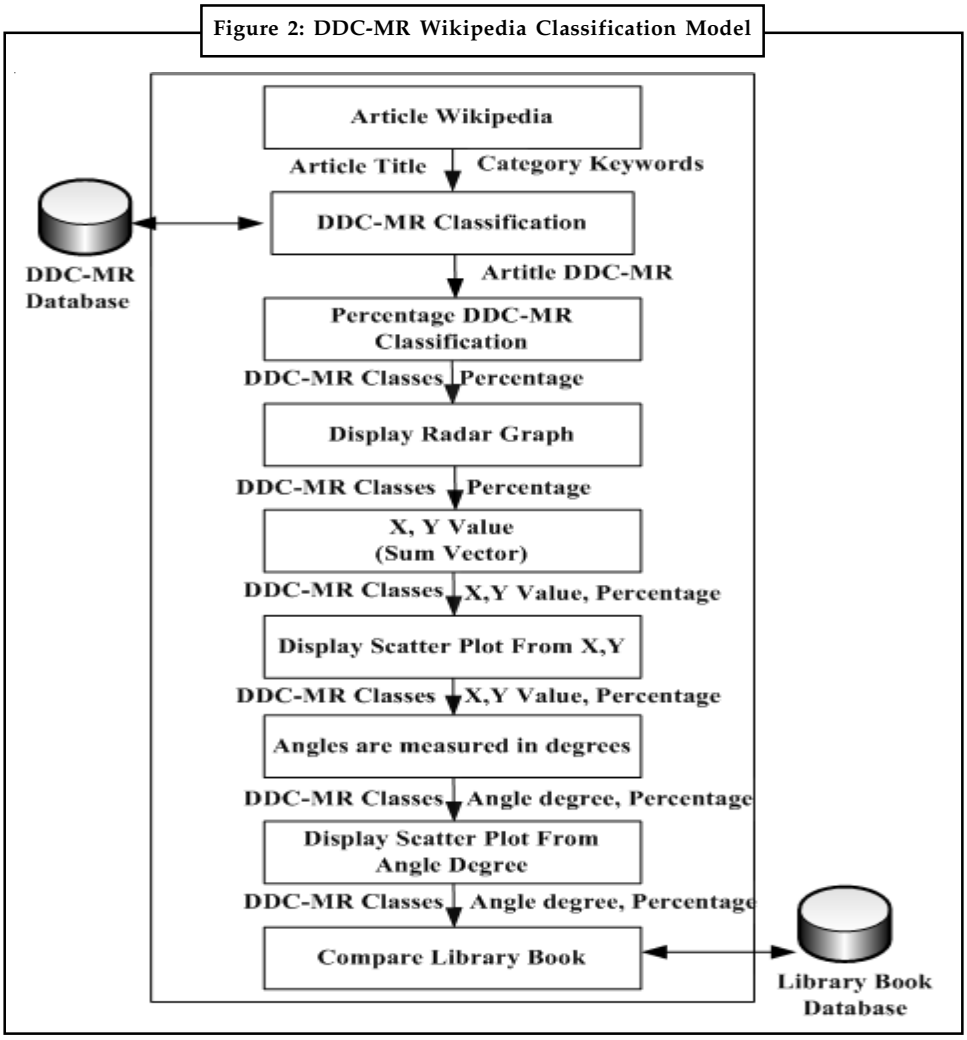
Contd....

Notes

For Golub (2006), he used the technique of creating the group of words which related to engineering so that it can be able to classify in the website automatically. However, such classifications have not been in the categorizing the contents of the articles in Wikipedia. The researches which present the methods and analysis of classification of documents, articles and contents in the Internet by the Dewey Decimal Classification Multiple Relations (DDC-MR), the result is shown by radar graph with the Mapping Method and is compared the relationship of Multiple Relations Data which makes the classification clearer and more accurate. Therefore, this paper analyzes the contents of the articles in Wikipedia for the Dewey Decimal Classification Multiple Relations (DDC-MR) into same standard as the classification of the library which is the international standard. It can connect the contents of the articles with the documents in the library and it makes benefit to Wikipedia in term of reference group which can be determined.

In this, the company uses the Dewey Decimal Classification Multiple Relations (DDC-MR) for analyzing content in Wikipedia in order to create a connection of information synchronization in the online system and documents in the library. This makes the information transfer faster and better and makes the connection of the contents in Wikipedia to international standard which has the steps of processing as shown in Figure 2.

Figure 2: DDC-MR Wikipedia Classification Model



Contd....

Notes

Step 1: Information Retrieval for extraction title article and categories keywords content from Wikipedia, usingcalculated weight keywords.

Step 2: Using DDC-MR for classification Wikipedia keywords.

Step 3: Calculated percentage DDC-MR classes.

Step 4: Display percentage DDC-MR classes with Radar graph.

Step 5: Calculated X, Y point of Article Wikipedia with sum vector.

Step 6: Display X, Y point of Article Wikipedia with Scatter plot.

Step 7: Calculated angle degree of Article Wikipedia.

Step 8: Display angle degree of Article Wikipedia with Scatter plot.

Last step: Compare Wikipedia DDC-MR Classes with Library Book DDC Classes.

Illustrates the steps of processing classification model of Wikipedia start from reading the Article title and Category keyword from Article Wikipedia. Then, using the Article Title and Category Keyword to be classified as the Dewey Decimal Classification Multiple Relations (DDC-MR) and calculated the percentage of each classes DDC-MR in Eq. (1) to store in the database.

$$P_n = \frac{N_n \times 100}{\sum_{n=0}^{9} N_n} \qquad ...(1)$$

P_n = Classes Percentage

N_n = Keywords Number

n = Classes Number

Notes N is Keywords number of classes form Article Wikipedia.

n is order of classes divide into 10 value as follow:

000 class is order of class equaling 0,

100 class is order of class equaling 1,

200 class is order of class equaling 2,

300 class is order of class equaling 3,

400 class is order of class equaling 4,

500 class is order of class equaling 5,

600 class is order of class equaling 6,

700 class is order of class equaling 7,

800 class is order of class equaling 8,

900 class is order of class equaling 9

P is percentage of class from Keywords number.

Contd....

Notes

Using the percentage of each class creates radar graph in order to show the relationship ratio of contents of the articles in each class and use the relationship in each class of content for calculating for point values in X-axis and Yaxis with Sum Vector equation as in Eq. (2)

$$\left.\begin{aligned} X &= \sum_{n=0}^{9} P_n \mathrm{Cos}(36n) \\ Y &= \sum_{n=0}^{9} P_n \mathrm{Sin}(36n) \end{aligned}\right\} \quad ...(2)$$

X = value X-axis

Y = value Y-axis

P_n = Percentage of class

n = Classes Number

Using values of X and Y plot in the graph as Scatter plot in order to find the position of the overall contents by equation 3.

$$\theta = \tan^{-1}\left(\left|\frac{X}{Y}\right|\right) \quad ...(3)$$

θ = Angles are measured in degrees

X = value of X-axis

Y = value of Y-axis

Benefit to Wikipedia in term of more reliable and clearer searching because Wikipedia is online information resource and is open source which does not limit the editor and it open for the users to check and edit the information by themselves. The good point is that the information can grow very quickly but the bad point is that there is no editor or specialist for checking the correction of all information in Wikipedia. Using DDC-MR for analyzing the content in Wikipedia is able to compare the contents in Wikipedia with Text books in the library within the group so that this can be checked for the accuracy of the information and can ensure that the contents in Wikipedia is more reliable. In addition, DDC-MR will make the connection of the contents in Wikipedia within the international standard instead of the connection with only Keyword.

Questions

1. Critically analyse the above case.
2. Write down the case facts.
3. What do you infer from the case?

Source: http://www.cms.livjm.ac.uk/pgnet2010/MakeCD/Papers/2010103.pdf

2.6 Summary

- This Unit introduces the concept of Universe of Subjects (UoS) and their structure and development.
- It describes the different types of subjects - Lamination, Fusion, Fission, Loose assemblage, distillation, clustering, and agglomeration.

Notes

- It focuses on systematic study of subjects through documents and design and development of a scheme for classification.
- A subject is an organized and systematized body of ideas. It may consist of one idea or a combination of several.
- A subject comprises a segment or segments of the universe of knowledge.
- A subject can be composed of a single segment like physics or any division or subdivision of it; double segments like science and technology, multiple segments like physical sciences, and so on.
- The word or words that denote a subject can act as a subject heading.
- Numerous types of subject system are possible, binary, ternary, quaternary and so on.
- Segment is a part of the universe of knowledge that harbours a subject and sometimes acts as a component of a subject system.
- The matter pertaining to a subject can be presented in various forms such as a dictionary, a textbook, and a monograph. In recent years, however, interdisciplinary team research has often, for practical convenience, necessitated bringing together in one and the same document two or more compound subjects going with different BS.

2.7 Keywords

Agglomeration: It may be made up of consecutive constituents or even non-consecutive constituents with respect to a classification scheme.

Clustering: It is forming a group of similar entities of relationship with each other or their simultaneity of occurrence or for convenience in treatment or discussion.

Distillation: It extracts the basic subjects from compound subjects.

Fusion: Fusion is the emergence of new ideas and new subjects of an interdisciplinary character.

Lamination: Lamination is construction of two layers just like a sandwich.

Segment: A part of the universe of knowledge that harbours a subject and sometimes acts as a component of a subject system.

Subject System: A subject having a component or components like object, action, space and time. Example: History: India: British period.

Subject: A subject is composed of a segment or segments of the universe of knowledge.

Universe of Knowledge: The totality of knowledge that has survived till date. The knowledge that is being generated now and will be generated in future will also be a part of the universe of knowledge.

2.8 Review Questions

1. Define a subject.
2. Explain the various characteristics of a subject?
3. The knowledge of formation of subjects in mandatory if one has to learn about subjects. Why or why not?
4. What is a segment? Explain various kinds of segments in detail?

Notes

5. Discuss the characteristics of a segment.
6. Briefly describe fusion and fission.
7. Discuss the concepts of clustering and agglomeration in brief.
8. Write a short note on lamination.

Answers: Self Assessment

1.	Ideas	2.	Segment
3.	Assemblage	4.	Astronomical
5.	Subject	6.	UoK
7.	Affinitive	8.	Traditional
9.	Consolidation	10.	Subjects
11.	UoS	12.	Fission
13.	Subjects	14.	Agglomerate
15.	Basic	16.	Relation

2.9 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives : Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990 – 1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://nopr.niscair.res.in/bitstream/123456789/4161/1/ALIS%2056(1)%207-12.pdf

http://www.americanscientist.org/bookshelf/pub/a-universe-of-knowledge

http://www.librarystudentjournal.org/index.php/lsj/article/view/68/224

http://www.loc.gov/rr/print/tp/SubjectAccessHineCaseStudy.pdf

Notes

Unit 3: Notational System

CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Purpose of Notational System
- Discuss the Need of Notational System
- Explain the Qualities of Notational System
- Describe the Types of Notational System
- Discuss the Fundamental Categories of Notation
- Explain the Various Types of Devices

Introduction

In the field of Library and Information Science (LIS), the theory of facet analysis owes its development to two sources: S.R. Ranganathan and the Classification Research Group (CRG). Ranganathan developed the theory of facet analysis because he was dissatisfied with the inability of traditional enumerative bibliographic classification systems to allow for the expression of compound subjects. Unlike Ranganathan, the CRG is not concerned principally with the "style" of notation, e.g., whether the notation should be pure or mixed, faceted or non-faceted, and so

Notes

forth. Rather, the CRG principles are concerned with qualities that should underlie all types of notation used in a classification system. For this reason, the CRG principles for notation will be included in the simplified model, as well as the Canons for Synonym and Homonym, which represent also these fundamental qualities of notation.

3.1 Purpose of Notational System

Melvil Dewey, self-proclaimed library reformer, made numerous contributions to modern librarianship. Foremost among those contributions is the knowledge organization system that bears his name, the Dewey Decimal Classification (DDC) system. While the original system "was devised for cataloguing and indexing purposes, . . . it was found . . . to be equally valuable for numbering and arranging books and pamphlets on the shelves". Evidence of the ingenuity of the DDC notational system is found in its use as a tool for both physical access (as a system of shelf arrangement) and intellectual access (as a classification system).

Entries in the library's catalogue gave the size of each book, as well as a number, apparently for the section in which it would be found. This information could be used to direct the searcher to the correct alcove and then to the correct shelf or shelves (books of like size being shelved together to reduce space requirements). Then, "unless there was some further undocumented system, like arrangement by author's name, it was then necessary to scan all books of the right size."

As we see, first and foremost, shelf arrangement was institution-specific. Where a particular item was shelved in one institution might bear little relationship to where it would be shelved in another institution (unless the broad subject schemes used were compatible). In deciding where to shelve a newly acquired item or in seeking to locate an item in one institution, little or no effort would be saved either the librarian or the library patron who happened to know the shelf location of a copy of the item in another institution. From one perspective, this is not altogether nonsensical. Shelf arrangement is, after all, very physical; it provides physical locations for physical items so that people can acquire physical access to those items. Why then should shelf arrangement not be governed solely by the physical layout of the housing institution? Here let us draw an analogy with the OSI (Open Systems Interconnection) Model, where each layer in the seven-layer model – with the physical layer at the bottom – provides services to the layer above it. In the OSI Model, the highest layer is the application layer, and "the other layers exist only to support this layer".

Shelf arrangement is a key element of the library's physical layer, while the uses to which the library patron applies the intellectual or artistic content of library materials comprise the library's application layer. Shelf arrangement should therefore be considered from the perspective of supporting access to and eventual use of intellectual and artistic content.

As we have seen, many fixed location systems achieved a degree of subject collocation, in as much as the first element of their notation corresponded to a broad subject class. But often these subject classes were too broad to provide meaningful subject collocation. Practically speaking, the first component in the notation of such schemes indicated in which alcove, case, etc., the item was shelved. Indeed, the entire notation of such schemes was geared toward reflecting the item's location. The notation in Dewey's Decimal Classification, in contrast, has always reflected the subject matter of the item. When used for shelving purposes, the notation only secondarily indicates where an item is located, which it does by indicating its location relative to the location of other items in the collection. In institutions desiring to maintain subject collocation within their collections and using fixed-location shelf arrangement, on-going acquisition would result in the need to revise the fixed-location notations, since in time the space reserved for given subjects would be filled and volumes would need to be physically shifted. But a relative location system like the DDC would avoid such a need. As new items are acquired, physical shifting of

Notes

the collection would still be required, but since the relativity of the order is based on subject and the subject nature of the items does not change, revision of the notation is undesirable.

Notes Indeed, by not being anchored to a physical layout in the least degree, relative location notational systems also avoid the need for different libraries to establish institution-specific notations for the same bibliographic work; as Dewey (1920, 151) had noted, "Then [with fixed location systems] there was the extravagant duplication of work in examining a new book for classification and cataloguing by each of 1000 libraries instead of doing this once for all at some central point."

In order for such a system to be useful for subject cataloguing purposes, the subjects recognized needed to be more specific than the broad subject groups used in fixed location systems. The initial publication of the DDC, published anonymously under the title, A Classification and Subject Index for Cataloguing and Arranging the Books and Pamphlets of a Library, presented ten main classes, each divided into ten divisions, each divided into ten sections. Apparently many librarians, initially "overwhelmed by its 1,000 class categories, described the scheme as too minute for libraries". In order for such a system to be useful for subject cataloguing purposes, the subjects recognized needed to be more specific than the broad subject groups used in fixed location systems. The initial publication of the DDC, published anonymously under the title, A Classification and Subject Index for Cataloguing and Arranging the Books and Pamphlets of a Library, presented ten main classes, each divided into ten divisions, each divided into ten sections. Apparently many librarians, initially "overwhelmed by its 1,000 class categories, described the scheme as too minute for libraries".

Self Assessment

State whether the following statements are true or false:

1. Entries in the library's catalogue gave the size of each book.
2. Shelf arrangement is a key element of the library's physical layer.
3. Many fixed location systems do not achieve a degree of subject collocation.
4. The notation in Dewey's Decimal Classification, do not reflect the subject matter of the item.

3.2 Need of Notational System

While the notation system used in a bibliographic classification may appear on the surface to have only utilitarian value, this analysis of the notational system used in the Dewey Decimal Classification has provided ample evidence to the contrary. Indeed, the decimal notation of the DDC is a central feature of the system. Not only did Dewey's insight into the use of decimal numbers provide for relative location shelf arrangements, freeing librarians from considerable duplication of effort, but his insight also provided the basis for a classification scheme with flexible granularity, that is hospitable to expansion, where the notation is expressive of relationships, interfaces well with modern retrieval systems, and is international.

Did u know? Some of these qualities are essential to on-going efforts to establish an ontological representation of the scheme. Not bad for a system of "absolute simplicity, using the simplest known symbols."

Notes

Miksa (1998, 83-90) summarizes why Dewey created the kind of classification system that he did: "because that is how knowledge was viewed in the times in which he lived, that is, as a relatively simple, one-dimensional hierarchical structure of subject categories with the most general subjects at the top of the structure and the most concrete categories at the lowest levels of the structure." Miksa continues by reflecting on the challenges faced by the DDC in assimilating to the post-modern age, in which information environments are becoming personalized spaces and in which assertions of truth are considered relative.

Among his suggestions for how the DDC should respond to these changes are:

1. Provision for various levels of specification so institutions and individuals can choose their desired level; and
2. Provision of alternative arrangements based on different citation orders. In order to achieve these purposes, Miksa notes that effort will be needed "to discover new hidden patterns of relationships among categories and sequences of categories so that these new patterns might be applied elsewhere."

Fortunately, such efforts would build on fundamental characteristics of the system.

1. The hierarchical structure of the system supports varying levels of specification; based on this, research efforts in machine-assisted derivation of the abridged edition have already been reported.
2. Because of the manner in which DDC numbers for complex topics are built (that is, the appending of notational segments that represent topic components), citation order is expressed in the notation.

The principle of maintaining the integrity of the notation militates against generating notational variants that adopt alternative citation orders. However, there is no stricture against alternative (even user-customized) displays that organize complex topics in ways that mirror alternative citation orders. Generating such displays could take advantage of information recorded in the 765 (Synthesized number components) field of the MARC authority format. It should be noted in a related vein that the 085 field in the MARC bibliographic format has recently been enhanced to support retrieval on the notational components that correspond to facets.

All the hierarchical relationships referred to thus far are generic-specific relationships, where a simple subject is made more specific through the addition of attributes associated with its semantic type: for example, red oaks are more specific than oaks. But specification in classification systems can also rely on the combination of two or more subjects of different semantic types (i.e., from different facets). For instance, jazz songs, a subject which combines form and genre, can be treated as a specification of jazz or as a specification of vocal music. In the DDC such subjects are typically expressed through number building; that is, a complex subject is reflected by appending notation that represents one subject to the base notation that represents another subject.

The DDC notation for jazz songs, 782.42165, reflects a combination of 782.42 Secular songs +165 Jazz (from 781.65). Batty (1976, 3) suggests that with the process of number building, seen in rudimentary form in even the first edition, Dewey made one of his greatest contributions. He describes the model thus: "the recognition of the characteristic aspects of the subject, the separate listing of those aspects in general-to-specific order, the availability of the detail from general aspect to divide the specific aspects further, the consequent assembly order of specific aspects divided by general aspects, and the mnemonic effect of the consistent use of simple notation from the two aspects." And it all takes place within and dovetails with hierarchically expressive notation.

Notes

Task Critically analyse the DDC notation for jazz songs.

Self Assessment

Fill in the blanks:

5. While the notation system used in a bibliographic classification may appear on the surface to have only ……..value.
6. DDC should respond to the changes are related to the provision of alternative arrangements based on different ……orders.
7. The principle of maintaining the ……of the notation militates against generating notational variants that adopt alternative citation orders.
8. All the hierarchical relationships referred to thus far are …….relationships.

3.3 Qualities of Notational System

From the beginning Dewey recognized the usefulness of form subdivisions (e.g., philosophy, dictionaries, periodicals, societies, education, history) for organizing the large number of items in general classes with a division number of 0. He assigned those numbers such as 203 Dictionaries of Theology and 709 History of Fine Arts rather than leave the numbers 101-109, 201-209, etc. unused. From this choice sprang the set of standard subdivisions that can now be added, unless prohibited, to any Dewey number. Another characteristic of the classification introduced at the start was the borrowing of substructure and attendant notation from general classes to more specific classes.

Example: Under 410 Comparative philology were found, inter alia, 411 Orthography, 412 Etymology, and 415 Grammar. Fewer than 420 English, 430 German, 440 French, 450 Italian, 460 Spanish, 470 Latin, and 480 Greek, were found essentially the same subdivisions, using the same notation at the section level (e.g., 425 English grammar). Similarly, at 800 Literature, the subdivisions under 810 Treatises and collections were repeated under 820 English literature, 830 German literature, 840 French literature, etc.

From such patterns arose the many instructions in the current system to notate the subdivisions of one subject area by dividing like another subject area. Because appending notation has the effect of subdividing a subject, the DDC has a reasonably high degree of mnemonics, with a subdivision found in multiple places often being expressed by the same notation (but the same notation is likely to have different meanings in different contexts; for example, in some contexts 5 corresponds to Italy/Italian, but in others it corresponds to grammar).

Of course, a simple enumeration of one thousand subjects would be overwhelming. But the subjects in the DDC, while standing in a linear sequence (as needed for the purposes of shelf arrangement), are also hierarchically organized; indeed the linear sequence falls naturally out of the hierarchical organization. This dual (linear, hierarchical) organization derives from the basic characteristics that decimal numbers have in common with all positional notation systems, coupled with the meaning that Dewey gave to zero. In particular, it was essential that there be no limit on the number of positions that could be used. As long as another digit could be added to the right-hand side of a Dewey number, the number would be capable of subdivision, which is the process by which new hierarchical relationships are created. The notational system scales up indefinitely.

Self Assessment

Notes

State whether the following statements are true or false:

9. Dewey recognized the usefulness of form subdivisions for organizing the large number of items.
10. The DDC has a reasonably low degree of mnemonics.
11. A simple enumeration of two thousand subjects would be overwhelming.
12. The notational system scales up indefinitely.

3.4 Types of Notational System

A specific document instance of the notation system – a score – should comprise a guide to aid in the re-creation or re-performance of the work. A formal notation system must be capable of describing all-digital, all-physical, or hybrid art works. Many media art works combine digital with physical components and the descriptive needs of discrete digital and non-traditional physical works are similar enough to justify an integrated notation system. It should be able to describe not just the aggregate work, but also make explicit the structure of sub-components of the work. Details such as technical data, creator info, rights info, and related choices may vary between different parts of a work.

A notation system should provide broad interoperability with other descriptive and technical standards that digital media art interacts with, including cultural informatics, library and museum standards, and media industry standards. There are many prototype standards (several based on XML/RDF) being tested in the museum and library communities for managing and providing online access to cultural materials such as books and artworks. A notation system for media art is distinct from these in that it needs to include the level of detail needed not just to describe the works, but to re-create them. However, interoperability with these other prototype standards is needed so that documentation for media art works does not remain marginalized, but can instead easily co-exist alongside traditional art documentation within larger databases or systems.

The notation system should employ an expression format that is standardized so that the development of software tools, training, documentation, and support is feasible for the arts community and leverages larger community or industry efforts. To allow durable and transparent scores, the notation system should integrate both human-readable (natural language) layers that allow high-level functionality and machine-readable (artificial/encoded language) layers that allow for automated processing. A notation system should be practical, cost-effective, scaleable, and tractable. It should allow varying levels of implementation from minimal scores to complex scores that are expanded upon at various points in the life cycle of the work.

Notes Addressing these concerns results in a more useful and accurate conceptual model by addressing media art works not as abstract and isolated entities, but rather as entities in the complicated context of the real world.

The development of a system of formal notation for media art first requires the development of a conceptual model. The formal notation system could be considered an expression of that model. A score is a specific instance of notation. In music, the conceptual model structures sound into pitch and rhythm, etc., the notation system is composed of notes and other graphics used to write music, and a score is a specific combination of notes in a musical work.

Notes

Caution It is important to note that the conceptual model and expression format are distinct entities.

Self Assessment

Fill in the blanks:

13. A ……notation system must be capable of describing all-digital, all-physical, or hybrid art works.
14. A specific document instance of the notation system should comprise a guide to aid in the ……..of the work.
15. The notation system should employ an expression format that is ……..
16. The development of a system of formal notation for media art first requires the development of a ……model.

3.5 Fundamental Categories of Notation

The full set of advantages attached to the use of decimal numbers appears to have come to Dewey over time, although the fundamental advantages were clear from the beginning. Indeed, the proposal Dewey made to Amherst College for his new classification system was limited to a proposal regarding notation, with the basic principle (which he referred to as the "decimal principle") of dividing at any given class into no more than nine subordinate classes (plus a 0 subclass to mean no further subdivision) firmly in place.

In the 1st edition of the scheme, one- and two-digit numbers were used for classes that are now numbered 001–099. Dewey (1876, 4) stated, "A General Cyclopedia or Periodical treats of no one class, and so is assigned to the Class 0. . . . No difficulty is found in following the arithmetical law and omitting the initial zero, so these numbers are printed 31, 32, etc., instead of 031, 032, etc." This omission of initial zeros might convey the impression that Dewey saw his numeric notation acting as integers. And yet he also gives examples of four digit numbers, e.g., 5578 Geology of Mexico, which were clearly not to be interpreted as integers. Indeed, his initial proposal for the system spoke of a decimal point "as if it were written after the first figure".

By the 2nd edition, Dewey's language indicated that his thoughts on the nature of his notation had coalesced. In this edition, all class numbers were given with at least three digits, including leading zeros for Class 0, and within that, Division 0. "The decimal form means — the heads are grouped and numbered with the common arithmetical figures used decimally" (Dewey 1891, 9; emphasis added). Dewey used the same phrase with reference to Cutter tables: "These tables represent a name by its initial followed by figures used decimally (to allow intercalation)" (Dewey, 1898, 54). Now integers do not allow for intercalation (i.e., interpolation) in the way that decimal numbers do: we cannot insert another integer between 356 and 357, but we can insert infinitely many numbers between .356 and .357. Indeed, in looking back at the beginnings of the scheme, he suggested that he had seen it as a thoroughly decimal notation3 all along: "The solution . . . was to get absolute simplicity by using the simplest known symbols, the Arabic numerals as decimals, with the ordinary significance of nought". (Of course, if he really had conceived of the notation as thoroughly decimal, there would have been no need to fill out three-digit numbers with trailing zeros.)

Self Assessment

Notes

State whether the following statements are true or false:

17. The full set of disadvantages attached to the use of decimal numbers appears to have come to Dewey over time.
18. In the 1st edition of the scheme, one- and two-digit numbers were used for classes that are now numbered 001–099.
19. By the 2nd edition, Dewey's language indicated that his thoughts on the nature of his notation had coalesced.
20. All class numbers were given with at least five digits.

3.6 Variety of Devices

The four major devices used in CC are:

1. Chronological device
2. Geographical device
3. Subject device
4. Alphabetical device

We will discuss each of these in brief.

3.6.1 Chronological Device

The purpose of this device is to sharpen a facet number. It can sharpen an isolate or form a new isolate. This is done by employing a chronological number from the schedule of time isolates. All numbers for authors in the class Literature are derived through this device. It is impracticable to enumerate all authors. The chronological device has, however, taken care of such a contingency. To give an example, the number for Rabindranath Tagore is 0, 157,1M61. Here, M61'stands for 1861, the year of birth of Rabindranath Tagore. This device has been used in several main classes like library science, mathematics, medicine, fine arts, psychology, education, economics, etc. This device can be used wherever warranted. The basic class of systems is derived through the chronological device.

3.6.2 Geographical Device

The purpose of all these devices, as stated earlier, is to form or to sharpen an isolate number in a schedule. Employing a geographical number from the schedule of space isolates is another mechanism of doing this. It has been used in library science, fine arts, religion, linguistics, history and in several other classes. The formation of an isolate using this device is as follows:

152 = d4437 means Rajasthani Hindi

where

152 is Hindi

= is the connecting symbol

d is the symbol for dialect

4437 is Rajasthan from the schedule of space isolates.

Notes

Another 'example of the geographical device'

Early Egyptian religion for which the number is Q, 8677.

Here, Q, 8 is other religions, and 677 is Egypt from the schedule of space isolates

3.6.3 Subject Device

Subject device is used to form or sharpen a facet by adding to it (facet) another class number from elsewhere in the scheme. This device has been used in several train classes. The part of the number derived by the subject device should be enclosed in parenthesis (circular brackets).

Example: Medical college library is 2, J3 (L)

In the above example, in library science, 2, J3 represents college libraries to which is added (L) from the main class L Medicine' to derive medical college library by subject device.

Let us take another example of subject device. Hindu Law is Z, (Q, 2) where Z is law, and (Q, 2) is Hindu religion from the main class Q Religion.

3.6.4 Alphabetical Device

Alphabetical device is also used to form or sharpen an isolate number. The device is used by taking the first or the first two or three letters of the names of persons, or objects, or products widely accepted as such. The device can be used wherever warranted. The following are some examples where the device is used:

0, 157, 3M61, G	Gora, a novel by Rabindranath Tagore

Here, G stands for Gora

0, 157, 3M61, H + W	Home and the world, a novel by Tagore.

Here, the initial letters of the two words in the title are connected, using the plus sign (+).

(H for Home and W for World)

D93CM	Maruti motor car. D93C is for motor cars and M stands for Maruti
J, 381B	Basmati rice, where J, 381 is rice' and B is-for Basmati.

3.6.5 Common Isolate Device

Ranganathan defines common isolates as "an isolate idea denoted by the same isolate term and represented by the same isolate number, quite irrespective of the compound subject in which it occurs, or the basic subject with which the compound subject goes". In DDC, it has been explained as "a special kind of patterned repetition any subject can be presented in several forms. It could be in the form of outline, history, theory or dictionary. It could also be in the form of a periodical or a handbook. It could as well be a presentation of how to study or teach that subject. These common forms and modes of presentation are called standard subdivisions.

It has been found that certain kinds of concepts keep recurring and may be found in many subjects, e.g., proceedings, periodical, dictionary or encyclopaedia. These are all referred to as forms of presentation. Publications like Journal of Economics, Encyclopaedia of Philosophy and Proceedings of All India Library Conference have their own subjects. All these subjects, however, are presented in particular forms. The forms involved here such as journal, encyclopaedia and conference proceedings are commonly referred to as outer forms. There are inner forms also,

Notes

i.e., forms of approach to the subject. For example, theory, study and teaching, history and biography are various approaches to the subject and they are known as inner forms.

We also find that subjects are treated in the historical and geographical contexts, which are usually called by the terms time and space respectively. Thus, inner and outer forms of presentation and historical and geographical treatment are features common to all or most subjects. They, therefore, recur throughout the scheme of classification. In library classification, such recurring concepts are standardised. This standardisation results in economy of size, as it restricts the length of the schedules in a scheme by listing these common features only once. Incidentally, standardisation also lends mnemonic value to the recurring concepts, as they are consistently expressed by the same set of symbols. Hence, in a scheme of classification, separate tables are provided for common isolates and directions are given for their application.

History of Common Isolates

There are several things which go to the credit of Melvil Dewey. The concept of common isolates is one of them. In the beginning he called them form divisions. They were first introduced in the second edition of DDC brought out in 1885. Since then they have undergone several changes. The name form divisions continued up to the twelfth edition of DDC published in 1922. This name was changed to common subdivisions in the thirteenth edition appearing in 1932. These common subdivisions were listed under three different categories, viz., miscellaneous common subdivisions, viewpoints and form divisions. This whole set reappeared as just form divisions in the fifteenth and sixteenth editions and was renamed as standard subdivisions in the seventeenth edition. The seventeenth edition also identified space and time isolates as common isolates and listed them as such. Until the publication of the seventeenth edition, the history schedule had been used for space isolates.

In UDC, common isolates are called auxiliary subdivisions. Broadly, there are two types of auxiliaries in use in UDC: common and special. Auxiliaries of form in UDC are like the standard subdivisions of DDC. Space and time isolates are treated as common auxiliaries and listed separately. The use of auxiliaries in UDC is an important aspect in number building.

In the first edition of CC, there were three different schedules for common subdivisions of which space and time were two. The number of common subdivisions was small initially. It was only in the fourth edition of CC that these were recognised as anteriorising and posteriorising common subdivisions. In the fifth edition, they were named as common isolates. After several changes through successive editions an exhaustive list of common isolates has emerged in the seventh edition of CC.

Kinds of Common Isolates

According to the definition of the term "Common Isolate Idea", the different kinds of common isolates include language isolate ideas, time isolate ideas, space isolate ideas and anteriorising common isolate ideas. There can also be common personality isolate ideas, common matter isolate ideas, and common energy isolate ideas.

It may be noted that among the manifestations of the Fundamental Categories Energy, and Matter, some will be special isolate ideas and some others will be common isolate ideas. The matter common isolate ideas consist of properties and values and not of materials. However, these common property isolates and energy common isolate ideas too need enumeration. Further, it is found that energy common isolate term and matter common isolate terms are often found coalesced into a single term in the documents; one has to separate them. Also, one and the same common isolate idea is not always denoted by the same term at all times; their reduction to a single term is time-consuming.

Notes

Self Assessment

Fill in the blanks:

21. The purpose of chronological device is to sharpen a …….. number.
22. Common isolates could also be in the form of a …….. or a handbook.
23. In UDC, common isolates are called …….. sub-divisions.
24. One and the same common …….. idea is not always denoted by the same term at all times.

Case Study

DDC at Oxford Brookes

This library uses the Dewey Decimal Classification (DDC) scheme to arrange books and other library materials on the shelves so they may be easily retrieved. It is used in many libraries and allows items about the same subject to be shelved together.

When an item arrives in the library it is assigned a DDC number, often called the "class-mark" or "shelf-mark". Each of the numbers in this shelf-mark has a meaning and is not assigned randomly.

For example, the book "The Royal doctors 1485 - 1714" by Elizabeth Furdell has been assigned the shelf-mark 610.6952094205 FUR. These numerals indicate:

610 = Medical sciences

610.6 = Professions

610.69 = Medical personnel

610.695 = Specific kindsof medical personnel

610.6952 = Physicians

610.69520942 = Physicians in England and Wales

610.6952094205 = Physicians in England and Wales 1485-1603

Most items will also be assigned some letters at the end of the numerals, "FUR" in the above example. These are taken from the author's surname or the first word of the title.

Finding Items on the Shelves

The shelf-mark will always have at least three numbers, followed by some letters. It is usually displayed on the spine of the item, but is sometimes placed on the front cover. Here are some examples:

361. 3 HIG	382. 63 COC	576 JON	599. 935 PHI	647. 944 21 LON	823. 914 BAI/B

The DDC system places items about the same subject at the same number. This means that once you have identified the DDC number for the subject you are interested in, you can browse the shelves at that number.

Contd....

Notes

On each shelf the items are arranged in a numerical sequence from left to right by their DDC number. Where several items have an identical DDC number, the letters are used to further arrange them. For example,

361. 3 HIG	361. 32 **BOR**	361. 32 **STO**	363. 35 CIV	363. 377 **PRE**	363. 377 **PRO**

Questions

1. Critically analyse the DDC system at Oxford Brookes.
2. Write down the case facts.

Source: http://www.brookes.ac.uk/library/guides/rg13dewey.pdf

3.7 Summary

- Melvil Dewey, self-proclaimed library reformer, made numerous contributions to modern librarianship.
- Shelf arrangement is a key element of the library's physical layer, while the uses to which the library patron applies the intellectual or artistic content of library materials comprise the library's application layer.
- The notation in Dewey's Decimal Classification, in contrast, has always reflected the subject matter of the item.
- In order for such a system to be useful for subject cataloging purposes, the subjects recognized needed to be more specific than the broad subject groups used in fixed location systems.
- While the notation system used in a bibliographic classification may appear on the surface to have only utilitarian value, this analysis of the notational system used in the Dewey Decimal Classification has provided ample evidence to the contrary
- The principle of maintaining the integrity of the notation militates against generating notational variants that adopt alternative citation orders.
- All the hierarchical relationships referred to thus far are generic-specific relationships, where a simple subject is made more specific through the addition of attributes associated with its semantic type.
- The DDC notation for jazz songs, 782.42165, reflects a combination of 782.42 Secular songs + 165 Jazz (from 781.65).
- A formal notation system must be capable of describing all-digital, all-physical, or hybrid art works.
- The notation system should employ an expression format that is standardized so that the development of software tools, training, documentation, and support is feasible for the arts community and leverages larger community or industry efforts.
- The full set of advantages attached to the use of decimal numbers appears to have come to Dewey over time, although the fundamental advantages were clear from the beginning.

3.8 Keywords

Attributes: A quality or feature regarded as a characteristic or inherent part of someone or something.

Notes

Citation Order: The order by which the facets or elements of a compound or complex subject are arranged in a subject heading or class number.

Classification: The action or process of classifying something according to shared qualities or characteristics.

Collocation: A collocation is a sequence of words or terms that co-occur more often than would be expected by chance.

Document: A piece of written, printed, or electronic matter that provides information or evidence or that serves as an official record.

Hierarchical Structure: A structure of data having several levels arranged in a treelike structure.

Integrity: The quality of being honest and having strong moral principles; moral uprightness.

Notation: A system of figures or symbols used in a specialized field to represent numbers, quantities, tones, or values.

Pamphlets: Small booklet or leaflet containing information about a single subject.

Publication: Publication is the distribution of copies or phonorecords of a work to the public.

Shelf Arrangement: The assortment and location of products on store shelves.

3.9 Review Questions

1. Discuss the purpose of Notational System.
2. "Shelf arrangement is a key element of the library's physical layer." Elucidate.
3. Highlight the need of Notational System.
4. Do you think that all the hierarchical relationships referred to thus far are generic-specific relationships? If yes, give reasons.
5. Explain the qualities of Notational System.
6. What are the types of Notational System?
7. Discuss the fundamental categories of Notation.

Answers: Self Assessment

1. True
2. True
3. False
4. False
5. Utilitarian
6. Citation
7. Integrity
8. Generic-Specific
9. True
10. False
11. False
12. False
13. Formal
14. Re-creation or Re-performance
15. Standardized
16. Conceptual
17. False
18. True
19. True
20. False

21. Facet
22. Periodical
23. Auxiliary
24. Isolate

Notes

3.10 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives : Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

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Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://iainstitute.org/en/learn/research/a_simplified_model_for_facet_analysis.php

http://iskocus.org/publications/nasko2009/Green-NASKO2009.pdf

http://library.thinkquest.org/15413/history/history-med.htm

http://www.bampfa.berkeley.edu/about/formalnotation.pdf

http://www.ii.uib.no/mouldable/alert/files/alerts-dsal06.pdf

https://journals.lib.washington.edu/index.php/nasko/article/download/12811/11293

Notes

Unit 4: Colon Classification and Dewey Decimal Classification

CONTENTS

Objectives

Notes

After studying this unit, you will be able to:

- Explain the Concept of Colon Classification (CC)
- Discuss the Notation in Colon Classification
- Explain the Systems and Specials
- Describe the Merits and Demerits of Colon Classification (CC)
- Explain the Practical Work in Colon Classification (CC)
- Discuss the Dewey Decimal Classification (DDC)
- Describe the Notation in Dewey Decimal Classification

Introduction

S.R. Ranganathan, the author of Colon Classification (CC), was well aware that a scheme of classification should be able to meet the challenge of ever rowing universe of knowledge and it should be able to accommodate, at an appropriate, place, any new subject without disturbing the arrays already formed. The Colon Classification, just as other classification schemes, starts with a number of main classes, which represent the fields of knowledge. Each class is then analysed and broken down into its basic elements, grouped together by common attributes, called facets.

4.1 Colon Classification (CC)

Ranganathan was a mathematics lecturer. It was a mere accident that he was appointed Librarian of the Madras University Library in the year 1924. He was soon deputed to Britain for an observational tour of British libraries. While in Britain he also attended classes in the School of Librarianship, University of London. Berwick Sayers, known as' the grammarian of library classification, was one of the teachers at the School. During his tour of Britain; Ranganathan visited several libraries and was quick to notice the lacunae in the classification schemes in use then.

A chance visit to a departmental store in London gave Ranganathan a clue for evolving a scheme of classification. He saw the demonstration of a toy called meccano set. The meccano set consists of several slotted strips, rods, wheels, screws, nuts and bolts with which several different models could be made. This gave him the idea that in a classification scheme there should be standard units that could be joined by connecting symbols. Ranganathan's standard units resembled the strips and his connecting symbols resembled the nuts and bolts of the meccano set. The standard units became the schedules. Thus, a class number could be constructed with the different elements enumerated in the schedules with a connecting symbol and he chose the colon as the connecting symbol. This was, dip, Ranganathan's conception of Colon Classification.

The foundation of Colon Classification was laid in Britain in the year 1924. In 1925, his journey back to India gave Ranganathan ample time to work on the schedules. The library on the ship he was travelling in and the Madras University Library's book catalogue, which he was carrying with him served as the working equipment for him.

It was the first ever faceted (or analytico-synthetic) classification. The first edition was published in 1933. Since then six more editions have been published. It is especially used in libraries in India. Its name "Colon classification" comes from the use of colons to separate facets in class

Notes

numbers. However, many other classification schemes, some of which are completely unrelated, also use colons and other punctuation in various functions. They should not be confused with Colon classification.

Example: As an example, the subject "research in the cure of tuberculosis of lungs by x-ray conducted in India in 1950" results in a call number

L, 45; 421: 6; 253: f.44'N5

The components of this call number represent

Medicine, Lungs; Tuberculosis: Treatment; X-ray: Research. India'1950

In 1933 Indian librarian Shiyali Ramamrita Ranganathan introduced the Colon Classification system, which classifies all knowledge into broad, fundamental concepts. The Colon system then divides these concepts into several distinguishing characteristics, which Ranganathan called facets. The classification system uses colons (:) to distinguish between the various facets in a single notation and the name "Colon Classification system" is derived from its use in its notation scheme.

In United States, most research and academic libraries use Library of Congress Classification, while most schools and public libraries use Dewey Decimal Classification. The UDC system is widely used in Europe, Latin America, Russia and Japan. Although the use of the Colon Classification system is limited to a few Indian libraries, Ranganathan's concept of facet analysis in classifying knowledge has been widely recognized. Some of its key concepts have been adopted by subsequent editions of the DDC or UDC, among others.

4.1.1 A Brief History of Colon Classification

Dr. Shiyali Ramamrita Ranganathan, who lived from 1892 until 1972, was a renowned thinker and innovator in the world of library and information science. He introduced one of his greatest contributions to the field, the Colon Classification scheme, in 1933. This was published in two slim volumes. One volume held the rules of using the scheme and the other held the schedules needed to use it. Ranganathan, a mathematician by education, first thought of the scheme while studying in London, soon after his appointment as the first official Librarian at the Madras University Library in 1924. He studied at the London School for Librarianship and was greatly influenced by W.C. Berwick Sayers, a professor there.

He was often frustrated by the limitations of library classification schemes that he studied, which included the Library of Congress scheme and Dewey Decimal Classification. He felt that the schemes contained flaws because they were developed in order to organize existing collections. He felt there was a need to create a scheme that would be able to reflect forthcoming titles with different subject matter than had been seen in the libraries and to expand to new areas of knowledge over time. His Colon Classification scheme was developed to fill this need. He claimed that he was partly inspired by the demonstration of a child's toy set, called a Meccano set, at a Selfridge's department store in London. The Meccano set was similar to an Erector Set, containing blocks, loops, string, and other items that could be used to build many different structures.

As Ranganathan travelled back to India after his studies, he worked on the scheme that would eventually become Colon Classification. He tested it on the ship's library. He then tested it on the Madras University Library and determined that it was ready to be published. The name comes from the use of the colon as the character to differentiate the pieces of the Class Number, which is comparable to a Dewey number. Colon Classification includes an additional guide for creating what it calls a Book Number.

Notes

Did u know? The Class Number and Book Number work together to give individual volumes a place on the shelf.

The 2nd edition of the Colon Classification standard was published in 1939, after several years of use and testing by the public. Ranganathan referred to this as the Basic Version of the Colon Classification scheme. In 1952, Ranganathan published the 4th edition. This included a major new development, the introduction of the PMEST (Personality, Matter, Energy, Space and Time) categories. The basic idea of five categories was present in the earlier edition, but was not clearly defined. The presence of information in any of these five categories is indicated by different punctuation, making the term 'colon classification' a slight misnomer. However the name remains.

4.1.2 Components of Ranganathan's Scheme

Ranganathan based the Colon Classification scheme on the concept of facet analysis, an idea that was not new to library science. He believed that any concept could be built by using a term from a basic class to start the concept at a very broad level and then adding terms that corresponded to facets of that basic class in order to arrive at the very specific topic. This is how his fascination with the Meccano building set came to life in classification. A Class Number was made up of a Basic Class number (or sometimes more than one, as we'll see later) and as many additional facets (what he called Isolates) that the cataloguer needed to add. The Basic Class number is sometimes referred to as the Basic Subject or the Basic Facet.

Upon examining all the facets, Ranganathan notices that there are five main groups into which the facets fall, and he calls these the fundamental categories, represented by the mnemonic PMEST in an order of decreasing concreteness.

Personality	–	Can be understood as the primary facet.
	–	The most prominent attribute
Matter	–	Physical material
Energy	–	Action
Space	–	Location
Time	–	Time period

Ranganathan believed that any object (for him this meant any concept that a book could be written about) could be represented by pulling relevant pieces from these five facets and fitting them together. All of the facets do not need to be represented, and each can be pulled any number of times. The notation for each facet was separated by using a colon, hence the name of the system. Arlene Taylor provides a good example that uses all five facets. Imagine a book about "the design of wooden furniture in 18th century America." (Taylor, 1999).

The facets would be as follows:

- Personality-furniture
- Matter-wood
- Energy-design
- Space-America
- Time-18th century

Notes

Notes There are also facets that are common to all the classes. These are called common isolates. Examples include form and language. The same facet can be used more than once.

Notations, such as numbers and letters, are used to represent the facets, while punctuation marks are used to indicate the nature and type of the facets. The classifier's job, therefore, is to combine the available terms that are appropriate in describing the information package in hand.

Example: So, for example, consider a book or report about 'Circulation of periodicals in University Libraries in India up to the 1970s'. Using Colon Classification, this book/report would have this Class Number:

234; 46: 6.44'N7

This Class Number breaks down like this:

2 = Basic Class number 2, indicates the Basic Class Library Science.

34 = Personality. (Notice the lack of comma, as mentioned above.) In the Library Science Basic Class, Personality indicates types of libraries. 34 is the number for university libraries. In fact, 3 indicates any type of academic library, and 34 is a narrower term, so an additional digit is added to it. 33 indicate college libraries, 42 indicate industrial libraries, 48 indicate government department libraries, etc.

;46 = The semi-colon indicates a Matter value. In the realm of Library Science, Matter indicates the type of materials involved. 46 correspond to periodicals.

:6 = The colon indicates an Energy value. In the realm of Library Science, Energy facets describe common actions such as cataloguing (55), circulation (6), reference service (7), book selection (81). Please note that numbers in Colon Classification are in decimal order (not whole number order), so these four examples are listed in correct ascending order.

.44 = The period indicates a Space value. 44 is assigned to India. The scheme includes the number 1 to indicate World, as well as numbers to indicate specific states/provinces in some countries, such as 7376 for the state of Illinois.

'N7 = The apostrophe indicates a Time value. The initial letter indicates a century (N=1900-1999), while the 7 indicates a decade. (Ranganathan was thinking far ahead. In his original schedules published in 1933, he had a table of values that went up to Z, which stands for the years 3000-3099 A.D.)

The five facets always are placed in this order. In some cases libraries have become accustomed to omitting some of the punctuation because it is "self-evident" that a new facet has begun. However I found this extremely confusing for someone who is new to the scheme.

4.1.3 About the Five Facets

Many cataloguers and theorists have struggled with the distinction between Personality, Matter, Energy, Space and Time.

Space and Time are the easiest of the five to understand. However, it is important to note that these are meant to be facets of some other concept—when they are the main focus of a work in themselves, then they are considered to be Personality elements of the work's Class Number.

Notes

The Matter facet typically deals with some concrete object, typically inanimate. This includes basic elements/materials as well as finished products. This category also includes adjectives to describe inanimate objects.

Energy indicates action and interaction. This could be persons, objects, or any entity acting alone or with another. This could include conceptual or intellectual entities as well.

The Personality facet indicates the core point of the subject at hand. It is the most "elusive" of the five, as Ranganathan himself admitted in the 4th edition. In fact, he even admitted that if a concept could not easily fit into the other four categories then it is probably a Personality facet. Personality element requires the most intuition, as it is the cataloguer's gut feeling about what the most important element of the subject is. In many cases the Personality element is indicated by a Basic Class number only.

Ranganathan also allowed for the combination of two subjects from entirely different disciplines within a single Class Number. In this case, the cataloguer added another Personality element onto the end of the initial (and most important) subject, along with the other relevant facets of the second subject. (This is the basic idea, although it is complicated by specific rules of order and number of facets allowed, etc.)

4.1.4 Basic Principles in Colon Classification

Colon Classification

B	Mathematics	**N**	Fine arts
C	Physics	**O**	Literature
D	Engineering	**P**	Linguistics
E	Chemistry	**Q**	Religion
F	Technology	**R**	Philosophy
G	Biology	**S**	Psychology
H	Geology	**T**	Education
I	Botany	**U**	Geography
J	Agriculture	**V**	History
K	Zoology	**W**	Political science
L	Medicine	**X**	Economics
M	Useful arts	**Y**	Sociology

Mysticism & spiritual experience **Z** Law

Colon Classification: Facets

Citation order of decreasing concreteness: PMEST

- P = Personality – the primary facet – things or kinds of things (e.g. "persons" in sociology)
- M = Matter – physical materials and abstract properties (e.g. the wood of a table, the table's color)
- E = Energy – some type of actions (e.g. "exports" in economics, "curriculum" in education)
- S = Space – place

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- T = Time – like historical periods
  - *Colon Classification:* facet indicators
- Facet indicators used for PMEST:

  [personality]; [matter]: [energy]. [space] ' [time]

L, 45; 421: 6; 253: f.44'N5 - stands for "Medicine, Lungs; Tuberculosis: Treatment; X-ray: Research.India'1950."

Describes the document, Research in the cure of the tuberculosis of lungs by x-ray conducted in India in 1950s

- Multiple levels of PMEST were possible
- Other indicators were also used, like & = "

4.1.5 The Future of Colon Classification

While Colon Classification, as well as many of Ranganathan's ideas, continues to influence library and information science, the scheme is not widely used in libraries. It gained a foothold in India during Ranganathan's life, but it never was the most commonly used scheme in India. Its critics claim that the scheme is better suited for classification of academic libraries than public or general-interest libraries. Colon Classification was also criticized because of major changes from one edition to the next. This not only added a burden of retrofitting to the libraries that used the scheme, but it also gave the international community the impression that Colon Classification was a work-in-progress rather than a fully functioning scheme. (Criticism about changes to the scheme particularly irritated Ranganathan. He pointed to his fifth law of library science, that a library is a growing organism. He extended this law to include classification of the library.) Most importantly, critics have long maintained that the Colon Classification notation and code numbers are simply too complex to gain acceptance from average library patrons.

Unfortunately, when Ranganathan died in 1972 he had not left an organization in place to continue work on the Colon Classification. All of the updates to the Colon Classification were personally managed by Ranganathan (with a little help from assistants on the development of schedules). So the code did not have the benefit of an overseeing organization to continue work on the code and develop support for its use. Ranganathan was working on the 7th edition of the Colon Classification system when he died. This was finally published in 1987.

Self Assessment

State whether the following statements are true or false:

1. The foundation of Colon Classification was laid in Britain in the year 1914.
2. Space indicates action and interaction.
3. Colon Classification includes an additional guide for creating what it calls a Book Number.

4.2 Notation in Colon Classification

In the classification theory, Ranganathan introduced the conception of three planes of work where the notational plane is beset with numerous obstacles. For this, much research has been taken place where various innovations have been taken place. Therefore, CC uses a mixed notation. It comprises of the following:

Notes

1. Parentheses (}
2. Indo-Arabic numerals, 1–9
3. Indicator digits
4. Roman alphabet—both capitals and lower case, A to Z and a to z

In this section, some of the changes are highlighted:

(a) The number of Main Subjects/Basic Subjects has been increased in edition 7. This has been done in several ways:

(i) Some old Main Subjects and some new Main Subjects have been divided into canonical divisions, e.g., 3 Book Science, 9 Research Technique.

(ii) In some subjects, [1PI] isolates have been treated as canonical divisions, e.g., Engineering, Technology, Geography and Economics.

(iii) In "X Economics", some of the [E] isolates have been changed into canonical divisions.

(iv) A new kind of formation of subjects – agglomeration (Subject Bundles) – has been added as Canonical Division.

(v) Systems have been changed into Basic Subjects.

(vi) Specials have been changed into Basic Subjects.

(vii) Environmental Device has been provided to indicate environment treatment of a Basic Subject, as a kind of specials.

(viii) Compound Basic Subjects – using the System part, Specials part, and Canonical Division part as its components.

(b) The indicator Digit " (double inverted comma) is used to indicate an "Anteriorising Isolate", instead of Roman small letters as was done in edition 6.

(c) Edition 7 includes Common Fundamental Category Isolates – for [E], [MIT and [P].

(d) New indicator digit "&" (ampersand) is used in place of old indicator digit "0" (zero) for Phase Relation.

(e) Change of some [E] isolates into [MP] isolates, e.g., B23 Theory of Equation, C7 Magnetism, J Agriculture, IX Forestry, KX Animal Husbandry, etc. (All [E] Isolates).

(f) Change of [E] cum [2P] isolates into MP Isolates, e.g., 2 Library Science, C3 Sound, G Biology, L Medicine, P Linguistics, Y Sociology, etc.

(g) Change of [2E] isolates into [1E] Isolates, e.g., J Agriculture.

(h) Breaking of [2E] cum [3P] Isolates into [E] Isolates and [2P] Isolates (Currently [P] isolates are treated as spectators).

(i) Change of Facet Structure – a facet formula is in a sense meaningless; it is an anachronism.

(j) Indicator Digit "," (comma) should be inserted before Level 1 of [P] facet in any Round in any subject.

Notes

Self Assessment

Fill in the blanks:

4. Ranganathan introduced the conception of ……..planes of work.
5. A new kind of formation of subjects ……..has been added as Canonical Division.
6. The indicator Digit is used to indicate an ……..instead of Roman small letters.

4.3 Systems and Specials

Colon Classification, system of library organization developed by the Indian librarian S.R. Ranganathan in 1933. It is general rather than specific in nature, and it can create complex or new categories through the use of facets, or colons. The category of dental surgery, for example, symbolized as L 214:4:7, is created by combining the letter L for medicine, the number 214 for teeth, the number 4 for diseases, and the number 7 for surgery.

In Colon Classification, there are 108 main classes (previously there were 33) and 10 generalized classes (broadly divided between the humanities and sciences), which are represented by a mixed notation of Arabic numerals and roman and Greek letters. Each main class comprises five fundamental facets, or groups: personality, matter, energy, space, and time. Ranganathan's main contribution to classification was the notion of these fundamental facets, or categories.

Instead of schedules of numbers for each topic, Colon Classification uses series of short tables from which component numbers are chosen and linked by colons to form a whole. The book number is an integral part of the call number, a departure from Dewey or Library of Congress systems. Each main class has its appropriate facets and focuses; e.g., literature has language and form. In addition, there are four floating tables that correspond to subdivisions—e.g., form, geography, time, and language. Further expansion of the tables is allowed through colon addition or omission (if the subject cannot be expanded). The collection of the University of Madras, India, was utilized in the creation of Colon Classification.

Colon classification is a general scheme which aims to classify by subject all kinds of documents.

Caution The present work aims to interpret every rule, major or minor. Library classification has become a vast and complicated field of study using highly technical terminology.

The word, system basic subjects, depicts a division of a major class which was elaborated after a school Notes of thought. School of Thought refers to the succession or a group of people who are devoted to some philosophy or cause. Therefore class number for a system is derived by the chronological instrument.

Example:

X-NI Communism: The number stands for a system of economics that came into being in the 1910s.

L-B Ayarveda. B is 999 to 1000 BC: A system of medicine that came into being prior to 1000 BC.

B6-M8 Hyperbolic geometry: Where B6 is geometry and M8 means the 1880s. The number stands for a system of geometry expounded in the 1880s.

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S-N14 Individualistic psychology: It means a school of psychology that came into being in 1914.

Specials: The term special basic subjects denote a division of a main class in which the subject of study is limited in some special manner. The class numbers of special are derived by enumeration.

Thus, on the other hand, specials basic subject refers to the division of a major class where the subject of study is limited in a particular way. Hence, the class numbers of special are derived by enumeration.

Self Assessment

State whether the following statements are true or false:

7. In Colon Classification, there are 101main classes and 16 generalized classes.
8. Colon classification is a general scheme which aims to classify by subject all kinds of documents.
9. The collection of the University of Mumbai was utilized in the creation of Colon Classification.

4.4 Merits and Demerits of Colon Classification (CC)

The Merits and Demerits of Colon Classification are as follows:

4.4.1 Merits of Colon Classification

- Very fiexible
- Able to easily accommodate new scientific discoveries, intellectual innovations & cultural developments
- Provides detailed and accurate subject classification
- Recognizes that hierarchical arrangements

4.4.2 Demerits of Colon Classification

- Extremely complex system
- Time consuming subject analysis and description
- Results in very long call numbers (L, 45; 421: 6; 253: f.44'N5 = 22 characters!!)

Self Assessment

State whether the following statements are true or false:

10. Colon classification is very fiexible.
11. Colon classification is extremely simple system.
12. Colon classification is time consuming.

4.5 Practical Work in Colon Classification (CC)

Following are two examples given for the fundamental categories and assigning them to appropriate facets:

Notes

Example: William Shakespeare: Merchant of Venice

Literature	O(BS/BF)
Language English	[IP1]-III (from the language schedule)
Form Drama	[1P2]-2 67
Author	Shakespeare, 1564 [1P3] - J64 (chronological device)
Work	Merchant of Venice [1P4]-M+V (alphabetical device)

The final number is, therefore, 0,111,2J64, M+V

Example: Treatment for headaches

Medicine	L(BS/BF0
Head Organ	[1P1]
Disease Property	[MP]-4
Ache	Pain (part of the disease)-17
Treatment	Action [E]-6

Hence, the final 'number is L, 18; 417:6

Follow the facet formula given at the beginning of each main class and you cannot go wrong.

4.6 Dewey Decimal Classification (DDC)

The Dewey Decimal Classification (DDC) system is a general knowledge organization tool that is continuously revised to keep pace with knowledge. The system was conceived by Melvil Dewey in 1873 and first published in 1876. The DDC is published by OCLC (Online Computer Library Center, Inc.). OCLC owns all copyright rights in the Dewey Decimal Classification, and licenses the system for a variety of uses.

The DDC is the most widely used classification system in the world. Libraries in more than 135 countries use the DDC to organize and provide access to their collections, and DDC numbers are featured in the national bibliographies of more than 60 countries. Libraries of every type apply Dewey numbers on a daily basis and share these numbers through a variety of means (including WorldCat, the OCLC Online Union Catalogue). Dewey is also used for other purposes, e.g., as a browsing mechanism for resources on the web.

Notes The DDC has been translated into over thirty languages. Translations of the latest full and abridged editions of the DDC are completed, planned, or underway in Arabic, Chinese, French, German, Greek, Hebrew, Icelandic, Italian, Korean, Norwegian, Russian, Spanish, and Vietnamese.

One of Dewey's great strengths is that the system is developed and maintained in a national bibliographic agency, the Library of Congress. The Dewey editorial office is located in the Decimal Classification Division of the Library of Congress, where classification specialists annually assign over 110,000 DDC numbers to records for works catalogued by the Library. Having the editorial office within the Decimal Classification Division enables the editors to

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detect trends in the literature that must be incorporated into the Classification. The editors prepare proposed schedule revisions and expansions, and forward the proposals to the Decimal Classification Editorial Policy Committee (EPC) for review and recommended action.

EPC is a ten-member international board whose main function is to advise the editors and OCLC on matters relating to changes, innovations, and the general development of the Classification. EPC represents the interests of DDC users; its members come from national, public, special, and academic libraries, and from library schools.

The DDC is published in full and abridged editions in print and electronic versions. The abridged edition is a logical truncation of the notational and structural hierarchy of the corresponding full edition on which it is based, and is intended for general collections of 20,000 titles or less. WebDewey and Abridged WebDewey, the electronic versions of the full and abridged editions, respectively, are updated frequently and contain additional index entries and mapped vocabulary. The electronic versions and supplemental web postings are the chief sources of on-going updates to the DDC. On the Dewey web site (www.oclc.org/dewey), selected new numbers and changes to the DDC are posted monthly, and mappings between selected new Library of Congress Subject Headings (LCSH) and Dewey numbers are posted biweekly.

Different libraries throughout the world are using different editions of DDC depending on the year of their establishment or the time they started classifying their books. The three volumes of the 19th edition (1979) consist of 3361 pages in all, bound in light grey colour. Its bibliographic details are as follows:

Dewey, Melvil: Dewey Decimal Classification and Relative Index/Devised by Melvil Dewey, Edition 19, edited under the direction of Benjamin A. Custer. Albany, N.Y: Forest Press, 1979.3 Volumes.

This complete set should be on your table or can be had for reference within the premises of the study centre nearest to you. There is nothing to be afraid of its size, as it is a reference book to be referred and consulted rather than read from cover to cover or memorised. DDC in three volumes is a number building machine, and you have to learn how to use it.

Task

1. Visit a few libraries in your town/city and note the classification schemes used by them.
2. Find out which editions of DDC are being used by the libraries in your town/city.

4.6.1 Structure and Notation

The DDC is built on sound principles that make it ideal as a general knowledge organization tool: meaningful notation in universally recognized Arabic numerals, well-defined categories, well-developed hierarchies, and a rich network of relationships among topics. In the DDC, basic classes are organized by disciplines or fields of study. At the broadest level, the DDC is divided into ten main classes, which together cover the entire world of knowledge. Each main class is further divided into ten divisions, and each division into ten sections (not all the numbers for the divisions and sections have been used). The main structure of the DDC is presented in the DDC Summaries following this introduction. The headings associated with the numbers in the summaries have been edited for browsing purposes, and do not necessarily match the complete headings found in the schedules.

The *first* summary contains the ten main classes. The first digit in each three-digit number represents the main class. For example, 600 represent technology.

Notes

The *second* summary contains the hundred divisions. The second digit in each three-digit number indicates the division. For example, 600 are used for general works on technology, 610 for medicine and health, 620 for engineering, and 630 for agriculture.

The *third* summary contains the thousand sections. The third digit in each three-digit number indicates the section. Thus, 610 are used for general works on medicine and health, 611 for human anatomy, 612 for human physiology, 613 for personal health and safety.

Arabic numerals are used to represent each class in the DDC. A decimal point follows the third digit in a class number, after which division by ten continues to the specific degree of classification needed. A subject may appear in more than one discipline.

Example: "Clothing" has aspects that fall under several disciplines. The psychological influence of clothing belongs in 155.95 as part of the discipline of psychology; customs associated with clothing belong in 391 as part of the discipline of customs; and clothing in the sense of fashion design belongs in 746.92 as part of the discipline of the arts.

4.6.2 Hierarchy

Hierarchy in the DDC is expressed through structure and notation. Structural hierarchy means that all topics (aside from the ten main classes) are part of all the broader topics above them. Any note regarding the nature of a class holds true for all the subordinate classes, including logically subordinate topics classed at coordinate numbers.

Notational hierarchy is expressed by length of notation. Numbers at any given level are usually subordinate to a class whose notation is one digit shorter; coordinate with a class whose notation has the same number of significant digits; and superordinate to a class with numbers one or more digits longer. The underlined digits in the following example demonstrate this notational hierarchy:

600 Technology

630 Agriculture and related technologies

636 Animal husbandry

636.7 Dogs

636.8 Cats

"Dogs" and "Cats" are more specific than (i.e., are subordinate to) "Animal husbandry"; they are equally specific as (i.e., are coordinate with) each other; and "Animal husbandry" is less specific than (i.e., is superordinate to) "Dogs" and "Cats". Sometimes, other devices must be used to express the hierarchy when it is not possible or desirable to do so through the notation. Special headings, notes, and entries indicate relationships among topics that violate notational hierarchy.

4.6.3 Arrangement of the DDC

The print version of the latest full edition of the DDC, Edition 22, is composed of the following major parts in four volumes:

Notes

Volume 1

(A) ***New Features in Edition 22:*** A brief explanation of the special features and changes in DDC 22

(B) ***Introduction:*** A description of the DDC and how to use it

(C) ***Glossary:*** Short definitions of terms used in the DDC

(D) Index to the Introduction and Glossary

(E) ***Manual:*** A guide to the use of the DDC that is made up primarily of extended discussions of problem areas in the application of the DDC. Information in the Manual is arranged by the numbers in the tables and schedules

(F) ***Tables:*** Six numbered tables of notation that can be added to class numbers to provide greater specificity

(G) ***Lists that compare Editions 21 and 22:*** Relocations and Discontinuations; Reused Numbers

Volume 2

(H) ***DDC Summaries:*** The top three levels of the DDC

(I) ***Schedules:*** The organization of knowledge from 000–599

Volume 3

(J) ***Schedules:*** The organization of knowledge from 600–999

Volume 4

(K) ***Relative Index:*** An alphabetical list of subjects with the disciplines in which they are treated sub-arranged alphabetically under each entry

4.6.4 Entries

Entries in the schedules and tables are composed of a DDC number in the number column (the column at the left margin), a heading describing the class that the number represents, and often one or more notes. All entries (numbers, headings and notes) should be read in the context of the hierarchy.

In the print version of the DDC, the first three digits of schedule numbers (main classes, divisions, sections) appear only once in the number column, when first used. They are repeated at the top of each page where their subdivisions continue.

Caution Subordinate numbers appear in the number column, beginning with a decimal point, with the initial three digits understood.

Some numbers in the schedules and tables are enclosed in parentheses or square brackets. Numbers and notes in parentheses provide options to standard practice. Numbers in square brackets represent topics that have been relocated or discontinued, or are unassigned. Square brackets are also used for standard subdivision concepts that are represented in another location. Numbers in square brackets are never used.

Notes

4.6.5 Number Building

Only a fraction of potential DDC numbers is included in the schedules. It is often necessary to build or synthesize a number that is not specifically listed in the schedules. Such built numbers allow for greater depth of content analysis.

Number building is initiated only upon instructions in the schedules (except for the addition of standard subdivisions, which may take place anywhere unless there is an instruction to the contrary). Number building begins with a base number (always stated in the instruction note) to which another number is added.

Self Assessment

Fill in the blanks:

13. Entries in the schedules and tables are composed of a …….number in the number column.
14. ……in the DDC is expressed through structure and notation.
15. ……..owns all copyright rights in the Dewey Decimal Classification, and licenses the system for a variety of uses.

4.7 Notation in Dewey Decimal Classification

As every film presents its story and theme through actors, so every library classification employs notation to denote classes and subclasses of subjects. Notation may be defined as a systematic series of shorthand symbols to denote classes and their subdivisions, and to show relationship between subjects. It mechanises the arrangement of books in a library. Brevity is implied in notation, but contrary to the popular impression, brevity is not its prime/only concern. It makes the system mechanical.

Arabic numerals are used to represent each class in the DDC. The first digit in each three-digit number represents the main class. For example, 500 represent science. The second digit in each three-digit number indicates the division. For example, 500 are used for general works on the sciences, 510 for mathematics, 520 for astronomy, 530 for physics. The third digit in each three-digit number indicates the section. Thus, 530 are used for general works on physics, 531 for classical mechanics, 532 for fluid mechanics, 533 for gas mechanics. The DDC uses the convention that no number should have fewer than three digits; zeros are used to fill out numbers. 4.16 A decimal point, or dot, follows the third digit in a class number, after which division by ten continues to the specific degree of classification needed. The dot is not a decimal point in the mathematical sense, but a psychological pause to break the monotony of numerical digits and to ease the transcription and copying of the class number.

Did u know? A number should never end in a 0 anywhere to the right of the decimal point.

The DDC schedules enumerate only a fraction of the possible numbers that can be used to represent concepts. Often, a number must be synthesized (built) to express a particular concept.

Notes

Medical journalism 070.44961

(070.449 Journalism in specific subjects + notation 61 from 610 Medicine and health [it is a convention in Dewey to drop the final zero after the decimal point])

Elementary mathematics curricula 372.7043

(372.7 Elementary education in mathematics + notation 043 Curricula from the add table under 372.3-372.8 Elementary education in specific subjects)

The DDC notations interrelate with hierarchy and structure in the following way: "Hierarchy in the DDC is expressed through structure and notation. ... Structural hierarchy means that all topics (aside from the ten main classes) are part of all the broader topics above them. The corollary is also true: whatever is true of the whole is true of the parts. This important concept is called hierarchical force. ... Notational hierarchy is expressed by length of notation. Numbers at any given level are usually subordinate to a class whose notation is one digit shorter; coordinate with a class whose notation has the same number of significant digits; and superordinate to a class with numbers one or more digits longer."

In compliance with the DDC system, the automatic analysis of notations (numbers) of the DDC is carried out in the VZG (Verbundzentrale des Gemeinsamen Bibliotheksverbundes) project Colibri (Context generation and Linguistic tools for Bibliographic Retrieval Interfaces). The goal of this project is to enrich title records on the basis of the DDC to improve retrieval. The analysis of DDC notations is conducted under the following research questions:

Q1: Is it possible to automatically decompose molecular DDC notations into atomic DDC notations?

Q2: Is it possible to improve automatic classification and retrieval by means of atomic DDC notations?

We define the terms "atomic DDC notation" and "molecular DDC notation" (while a DDC notation is considered as a string, i.e., an ordered sequence of symbols) as follows:

- ***Atomic DDC notation***: An atomic DDC notation is a semantically indecomposable string that represents a DDC class.
- ***Molecular DDC notation***: A molecular DDC notation is a string that is syntactically decomposable into DNA atoms.

4.7.1 Properties of Decimal Fractions

All decimal fractions follow a whole number preceded by a decimal point, as an indicator. For example in 10.5, read as ten point five, 5 is a decimal fraction and are preceded by a decimal point. Similarly 092 is read as zero point nine two or simply as decimal nine two. Decimal fractions have some mathematical properties (qualities) which are not possessed by integral (whole) numbers that we ordinarily use in our day to day routine. The properties of decimal fractions are discussed below:

Constant Place Value of the Digits 1, 2 and 3

If we add any digit to the right end of any decimal fraction, the place value of the already present figures does not change. For example, if a decimal fraction 52 is extended by 5 to make it 525, the original place value of the first two digits, viz., 52 remains unaltered. This is due to the fact that

Notes

every digit in a decimal fraction has its fixed absolute value irrespective of the total number of digits in a decimal sum. This property is the reverse of what it is in the whole numbers.

Superfluity of the Right End Zero

By virtue of this property, if any zero is added to the right end of a decimal fraction, its value remains the same. For example, 9.5, 9.50, 9.500 have exactly the same value.

On this account, one has to be a bit more careful in arranging decimal fractions according to their value. For example, of the two decimal fractions 23 and 1125, the former is of more value than the later. The simple formula is that of the two or more decimal fractions the one with a higher initial digit will be of higher value than the rest, irrespective of the total number of digits in any decimal fraction. For example, decimal 3 are of far more higher value than decimal 1559.

Ordinal Value of Digits

As in other classification systems, the number/symbols used here to denote subjects have only ordinal value. They do not possess any cardinal value. Here the numerals are devoid of any measure of their weight or power or quantity. They only indicate their sequential value, that is, which number is to come earlier and which later. In DDC, of the two subjects denoted by numbers, say 953 and 954, it never means that the later is of any more value or importance than the former or vice-versa. It not only indicates that on the library shelves the book bearing the class number 954 will come after that of 953 and so on. Similarly 511 will come earlier than 512 on the shelves, not that it is of less value than 512. And-by the same rule, 45 will come earlier than 5, and 301 earlier than 92.

Depiction of Hierarchy through Notation

With notation alone we do not know the importance or value of a subject, but it does help to determine its relative status and location among other subjects in the universe of knowledge. Notation also helps us to know the relative breadth or depth of a subject and its relationship with other subjects on its left and right sides. DDC & .4 hierarchical classification. This means that coordination and subordination of subjects is depicted through notation. For example, of the two subjects denoted by 5 and 51, we say that 51 is subordinate to 5 and 515 is subordinate to 51 in turn. In other words, 515 is a part of 51 which in turn is part of 5. Thus, the hierarchical order of these figures/subjects will be:

5

51

515

This is only possible if the notation is of decimal fractions.

4.7.2 Basic Plan and Convention of a Minimum of Three Digits

DDC is a universal scheme and is able to classify books in all branches of knowledge. It treats the whole of knowledge as unity, and divides it in ten mutually exclusive Main Classes denoted by decimal numbers 0 to 9 as follows:

0 Generalities

1 Philosophy and related disciplines

Notes

2 Religions

3 Social sciences

4 Languages

5 Pure sciences

6 Technology (Applied sciences)

7 The arts

8 Literature (Belles-letters)

9 General geography and history and their auxiliaries

Strictly and mathematically speaking, the number denoting Main Classes should have been written as 0.0 Generalities, 0.1 Philosophy and related disciplines, 0.2 Religion, and so on. But for the brevity and simplicity of notation, the initial nought and the decimal point are omitted, though these are understood to be there. Thus in DDC, if you come across a number say 512, then actually it should be treated as 0.512. We read 512 as five one two, and not as five hundred twelve. Similarly we read 91 as nine one and not ninety-one; and 025.4 as zero two five point four.

To simplify the ordinal value of these decimal fractions, and for their arrangement, there is a convention that no number in DDC shall comprise less than three digits. If any number is of less than three digits, then we add the required number of zeros to make the number of digits three. Hence in actual practice the ten main classes are denoted as:

000 Generalities

100 Philosophy and related disciplines

200 Religion

300 Social sciences

400 Language

500 Pure sciences

600 Technology (Applied sciences)

700 The arts

800 Literature

900 General geography and history

The above ten divisions are also called the First Summary of DDC schedules. For the beginner it is the first practical step to learn the system.

4.7.3 Notes

Perhaps the most helpful sources of information for the DDC classifier are the notes. There are several major kinds of notes in the twenty-second edition: notes that tell what is found at a classification, notes that tell what is found at other classifications, "including" notes (i.e., notes that identify topics in "standing room"), notes that explain changes in schedules and tables, notes that instruct the classifier in number building, notes that prescribe citation and preference order, and notes that explain options. Notes found in the first two groups have what is called "hierarchical force." This means that they are applicable to all the subdivisions under the number that has the note, as well as to the number with the note.

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Notes that tell what is found at a classification: These notes include scope notes, definition notes, number-built notes, former heading notes, variant name notes, and class-here notes. An example of a scope or definition note is found at "553 Economic geology." The first note there reads, "Quantitative occurrence and distribution of geologic materials of economic utility." The second note at this classification is an example of a class-here note: "Class here interdisciplinary works on non-metallic geologic materials." Such notes are used to list major topics that are included at a class and also to indicate where interdisciplinary and comprehensive works are to be classified. Number-built notes explain the source of built numbers that are included in the schedules, e.g. "559.9 Earth sciences of extra-terrestrial worlds. Number built according to instructions under 554-559." Former heading and variant name notes begin with those words and seem self-explanatory.

Notes that tell what is found at other classifications: These notes begin with the words class, for, or see also. For example, at "070.9 Historical and persons treatment of journalism and newspapers" is found the note, "Class historical treatment of specific topics of journalism in 070.41-070.49." At "338.5 General production economics" is the note, "For organization of production, see 338.6."

Including notes (notes that identify topics in "standing room"): These notes provide a location for topics that do not yet have enough works about them to justify a separate number. It is assumed that there may be more works in the future, in which case the topics could be assigned their own number. Therefore, the rules for applying DDC do not allow number building of any kind (including additions of standard subdivisions) for topics in "standing room." The assumption is that the number in which the topic stands may be subdivided in a later edition to create a number for the topic, and so, if no number building has been done; all items on that topic can be classified in the new number for the topic simply by adding new digits to the general number. Standing-room notes begin with the word including. For example, in the library and information sciences section under "Descriptive cataloguing," one finds "025.322 Choice of entry and form of heading." The first note says, "Including corporate headings, personal name headings, and uniform titles." There is already a subdivision "025.3222 Authority files," and it would be possible in the future those individual subdivisions for corporate headings, personal name headings, and uniform titles could be made.

Notes explaining changes in schedules and tables: These notes tell a user of the schedules that there have been changes at a particular number since the last edition of DDC. There may have been revisions of contents covered, a discontinuation of coverage either for a whole number or for a part of its contents, or a relocation of all or part of the contents.

Notes that instruct the classifier in number building: Number-building instructions provide ways to gain greater depth of analysis at a particular classification.

Notes that prescribe citation and preference order: These notes help a classifier decide which of more than one aspect or characteristic to use for classification. Citation order allows the use of two or more characteristics (i.e., facets) in a specified order. Preference order establishes the order in which one chooses a facet when only one can be chosen. For example:

006 Special computer methods

. . .

Unless other instructions are given, class a subject with aspects in two or more subdivisions of 006 in the number coming last, e.g., natural language processing in expert systems 006.35 (not 006.33)

Notes

4.7.4 Broad and Close Classification

Because it offers a wide variety of techniques and nearly limitless expansions in number building, DDC is hospitable to all the titles that a large library might add in any subject. It also offers various ways to meet the limited needs of smaller libraries. The classifier must remember that, in general, when there are relatively few works in a given subject area, DDC encourages broad classification. Digits in class notations after decimal points may be cut off at any appropriate place. The present policy of the Library of Congress is to provide bibliographic records with DDC numbers of from one to three segments. The segments are indicated by slash marks, e.g., "940.53/18/092," which stands for "World War II—Holocaust—Biographies." A small library with a limited collection of materials on World War II might prefer to keep them all together under 940.53. If the library has several dozen items on the war, it might keep the ones on the Holocaust together by using 940.5318. If it maintains a separate resource collection for use by researchers, it could add the standard subdivision "–092" to distinguish the biographies. When a library decides to retain one or more of the DDC segments to achieve close classification at a particular point in the collection, it omits the slash marks, which were used in the LC record merely to suggest break-points. At this writing the LC Decimal Classification Division is considering simplifying its segmentation service to include only a single mark that shows the end of the abridged number. The reader should watch for this possible change.

In catalogue records created by other members of a network, the DDC classification numbers do not have slash marks. If a shorter number is desired, one must consult the schedules to find an appropriate break-point. For example, in the World War II Holocaust number above, breaking the number at 940.531 places the item with other works on social, political, and economic history of the war—not a very logical option. Breaking it at 940.5318 places it with items on the Holocaust, not subdivided by standard subdivision—quite logical. The classifier needs to check the schedules and not just cut the number at an arbitrary number of digits past the decimal point, which could result in an illogical placement.

4.7.5 Updating

New editions of DDC have been published every few years. Between editions, updating is accomplished via publication of new and changed entries on the Dewey Web site at the first of each month. It contains corrections of errors, clarifications, updating, and expansions. Also available on the Dewey home page are other kinds of updating tools such as "Tips," "LCSH/DDC mappings," and "WebDewey quarterly enhancements." A policy for "continuous revision" has been adopted by OCLC, which means that revisions are released between editions, and new editions appear as cumulations.

4.7.6 Abridged Editions

The first Abridged Decimal Classification and Relative Index for Libraries, Clippings, Notes, etc., appeared in 1894, the year in which the fifth edition of the full schedules was published. Abridged edition 14 is based on DDC22 and was published in 2004. Like its predecessors, it is designed primarily for general collections of 20,000 titles or fewer, such as are found in small public and school libraries. It contains many fewer entries than the full edition; and tables, schedules, index, and manual all appear in one volume. The numbers used are compatible with DDC22 so that growing libraries can expand from the abridged to the full edition as their collections increase.

Notes

4.7.7 Relative Index

The "relative" index is so called because it is claimed to show relationships of each specific topic to one or more disciplines and to other topics. It contains terms found in the schedules and tables, and synonyms for those terms; names of countries, states, provinces, major cities, and important geographic features; and some names of persons. It does not have phrases that contain concepts represented by standard subdivisions (e.g., "Medical education"). Many see also references are given (e.g., "Organizations . . . see also Religious organizations"). Geographic name entries usually refer the user to the appropriate area table [e.g., "Macerata (Italy: Province) T2–456 73"]. A few referrals occur to the standard subdivisions and to other auxiliary tables (e.g., "Repairs ...T1–028 8"). The DDC relative index enumerates alphabetically all the main headings in the classification schedules, plus certain other specific entries not actually listed in the schedules. One such instance was discussed on page 5. In other places index terminology varies from that found in the schedules for the same class number, although the general meanings coincide. For example, the schedule entry "612.792 1 Glands and glandular secretions… Including perspiration" is a generalized representation of the index entry "Sebaceous glands–human physiology 612.792 1." The classifier should, of course, consult the index, especially in cases in which the location of the desired topic, or the precise nature of its relation to other topics, is in doubt. Yet the relative index should never become a substitute for the schedules. It is coordinated with them, but is limited for reasons of space and cannot show hierarchical progressions or topical groupings. It will guide the classifier to some, but not necessarily all, aspects of a given subject. The next important step in the classification process is to consult the schedules for verification, perspective, and possible further instructions. Only by using the two types of display together can the full potential of the scheme be realized.

4.7.8 WebDewey

WebDewey offers online searching and browsing access to the Dewey Decimal Classification. In addition, it maps DDC to Library of Congress Subject Headings (LCSH) and links from the mapped LCSH to the corresponding LCSH authority records. In the case of Abridged WebDewey, mapping is to the Sears Subject Headings. Selected Medical Subject Headings are also mapped to DDC numbers. WebDewey offers a work area where a cataloguer may build a number during the process of reading the number-building instructions. Local notes can also be added that will be displayed in context so that local classification practices are appropriately available. WebDewey and Abridged WebDewey are available as add-on services to OCLC Connexion, OCLC's cataloguing service. It is considered difficult by some to learn DDC by starting with WebDewey instead of the print text, because one cannot get a sense of the "big picture" on just one screen versus being able to look at two or more pages of text at once. However, for the experienced user, WebDewey can offer advanced means of display that are found to be quite desirable. For example, searching can be done using one or multiple indexes and by using Boolean operators, proximity searches, right and left truncation, and character masking. There are browsable Keyword in Context (KWIC) indexes of the Relative Index and LCSH and browsable sequential indexes of DDC numbers. Classification and table numbers are shown in hierarchical displays that show the position in relation to broader and narrower classes.

Notes Extensive use of hyperlinks gives fast access to related records and to entries in the Manual that are cited in notes for particular numbers. Top-down navigation through DDC is possible starting with a display of the ten main classes. In addition instructions are available for obtaining access to both WebDewey and Abridged WebDewey.

4.7.9 Difficulties: Long Numbers and Topic Relocations

Notes

Among the difficulties built into the DDC system are its long numbers, which increase rather than diminish as the system grows, nullifying some of the mnemonic character of the basic system? Thus the number 636.08969897, which was cited on page XXX as coming from the relative index entry for radiation injury in veterinary medicine, is so long that any mnemonic associations between it and the number 616.9897 (from which it was built) are obscured. Librarians who wish to retain these long numbers because of extensive holdings in one or more fields should write them on items to be shelved in several lines. The above number could be written in short segments as follows:

636

.089

698

97

Related to the long number difficulties are the rapid, often sweeping, topical relocations from one edition to another. Such drastic surgery is forced upon the system by its limited notational base and the swift growth and change in the world of knowledge and of publication. An article by Pat Thomas written soon after publication of DDC20, gives pointers on adjusting to DDC's expansions, reductions, relocations, and revised schedules. While the big rush, particularly in academic libraries, to change from DDC to LCC seems to have run its course, no library can afford to ignore all efforts to keep shelf arrangement contemporary with the shifts in knowledge as reflected in the literature.

Self Assessment

State whether the following statements are true or false:

16. Arabic numerals are used to represent each class in the DDC.
17. The DDC schedules enumerate only a fraction of the possible numbers that can be used to represent concepts.
18. An atomic DDC notation is a string that is syntactically decomposable into DNA atoms.

Case Study

Relevance of a Classified Catalogue in the FRBR Perspective

'Information processing and retrieval' being the core of librarianship, warrants adequate coverage at all levels of education in Library and Information Science (LIS). Library schools therefore used to include detailed study of the tools and techniques of information processing and retrieval, including classification, cataloguing, indexing, information system design etc. in the syllabi of the various courses in LIS. In fact library classification and cataloguing together accounted for almost half of the syllabi during the early days of library education. Subsequent developments, especially the application of Information Communication Technology (ICT) in information retrieval and the changes in the requirements and expectations of the clientele whom the profession has to serve, led to a paradigm shift in the discipline and made it necessary to incorporate more components

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Notes

borrowed from other subject fields in the syllabi. However the general practice in LIS schools is to have curricula with emphasis on the basic philosophy and theory of information processing and retrieval rather than just training the students in ICT enabled information retrieval skills. Such an approach is essential for the development of discipline retaining its identity.

Momentous changes have taken place in the scheme of education for librarianship all over the world during the past few years. In India for example, many of the library schools have now switched over to two-year integrated (4 semester) Master of Library and Information Science (M L I Sc) programme, with a basic degree in any discipline under the 10+2+3 scheme as the minimum qualification for admission. The former one-year courses of B L I Sc and M L I Sc are also being continued in some schools. In addition, there is the certificate course in library and information science, with either matriculation or a pass in higher secondary course as minimum requirement for admission, offered in universities, government institutes and autonomous institutions. These courses aim at moulding manpower competent to work in the various libraries and information centres and to perform a range of jobs, from routine semi-professional operations to managing national level integrated information systems. As the Curriculum Development Committee of the University Grants Commission (2001) observes, about 90% of the libraries in the country function on traditional lines, with print-based collection managed with card catalogue, card-based circulation system and other traditional devices, and with limited access to electronic resources. At the same time there are a good number of state-of-the-art libraries and information units that provide access to a host of digital resources within their campus as well as from outside. Therefore the professionals coming out of the library schools must be competent for both the categories of libraries. Hence the curricula of the various courses are framed in such a way that a balanced coverage of traditional tools and techniques as well as modern ICT-based devices is maintained. This paper is concerned with the facet of library cataloguing, the core of LIS which has to reflect the latest trends.

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 itself 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.

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. This author is of strong view that library schools have to train the students to compile a Classified Catalogue using the ISBD

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Notes

for the description part of entries and headings as derived according to the rules of the CCC. The author proposes the following modus operandi for such a cataloguing model.

The FRBR model attempts to delineate the types of entities constituting the universe of documents and the elements associated with them, the attributes of each, and the kinds of relationships that exist between entities. The entities are categorized into three groups namely the bibliographical resources which in themselves are the products of intellectual or artistic endeavour that the databases refer, entities responsible to them, and entities that are the subjects of the resources. The first group of entities is then divided as work, expression, manifestations and items. The second group comprises persons and corporate bodies. The subject can be any one or more of the other two groups of entities or any concept, object, place or event. To describe the entities in a database one has to use their attributes, which the FRBR document describes in detail. The relationship between entities enables to link the different categories of entities in the database. Further, the FRBR identifies the functions of a bibliographic database in terms of the user tasks. All these together are envisaged to serve as the schema for the design of a bibliographic database. Tillet (2004) gives a detailed discussion on the impact of FRBR on cataloguing codes and practices including the future systems.

The significance of Facet Analysis techniques in all the various activities relating to information retrieval has been well accepted in the field of LIS. Ranganathan gave a new dimension to the technique and he successfully applied it in the design of Colon Classification and the Chain Procedure of deriving subject headings. A facet being a list of concepts or isolates in a subject domain derived on the basis of a single train of characteristics can be viewed as one of the first order divisions of the subject. All the component concepts in any branch of knowledge can be categorized into a set of facets. In the main subject medicine for instance, one can have the 'organs' facet, 'problems' facet, 'causative factors' facet, 'handling' facet etc. The Basic Class together with isolate facets arranged in a logical sequence can be viewed to give what is called the absolute syntax of the subject in hand. A freely faceted system gives maximum flexibility in formulating the facets and in deciding their sequence, the only restriction being that everything should be based on sound principles and logic. The Class Number of a compound subject is derived by connecting the Basic Facet and isolate numbers in a logical sequence, using the prescribed indicator digits. The notation system mechanizes the arrangement of specific subjects in a domain into a preferred logical sequence. In this respect the Colon Classification can be considered as a close approximation of a freely faceted classification.

The Classification Research Group declared in 1955, the need for using facet analysis as the basis of all methods of information retrieval. Facet analysis at varying degrees is applied in library classification schemes including the DDC, subject heading lists and in thesaurus construction. The continued relevance of Ranganathan's facet analysis in modern information retrieval systems is illustrated by Ingwersen and Wormell (1982). Ellis and Vasconcelos (1999) give an outline as to how facet analysis can be used to search and organize the web resources in a more efficient manner than the search engines and directories do. A detailed account of the applications of facet analysis including its use in search and retrieval of web documents and portals is given by Vanda Broughton (2006). Therefore it becomes evident that a Classified Catalogue in card form or a relational database with provision for browsing through a hierarchical class structure, with a sound footing on a freely faceted classification would be very much effective and efficient as a tool for all types of information retrieval. Hence the author proposes a Classified Catalogue; with Class Number as per the Colon Classification and subject entries derived using the Chain Procedure as a prototype as a module to train the students in library cataloguing.

Contd....

Notes

Questions

1. Critically analyse the above case.
2. Write down the case facts.
3. What do you infer from the case?

Source: http://eprints.rclis.org/9601/1/varghese-paper.pdf

4.8 Summary

- The foundation of Colon Classification was laid in Britain in the year 1924.
- In 1933 Indian librarian Shiyali Ramamrita Ranganathan introduced the Colon Classification system, which classifies all knowledge into broad, fundamental concepts.
- Dr. Shiyali Ramamrita Ranganathan, who lived from 1892 until 1972, was a renowned thinker and innovator in the world of library and information science.
- As Ranganathan travelled back to India after his studies, he worked on the scheme that would eventually become Colon Classification.
- Ranganathan based the Colon Classification scheme on the concept of facet analysis, an idea that was not new to library science.
- Notations, such as numbers and letters, are used to represent the facets, while punctuation marks are used to indicate the nature and type of the facets.
- Ranganathan also allowed for the combination of two subjects from entirely different disciplines within a single Class Number
- In Colon Classification, there are 108 main classes (previously there were 33) and 10 generalized classes (broadly divided between the humanities and sciences), which are represented by a mixed notation of Arabic numerals and roman and Greek letters.
- The Dewey Decimal Classification (DDC) system is a general knowledge organization tool that is continuously revised to keep pace with knowledge.
- EPC is a ten-member international board whose main function is to advise the editors and OCLC on matters relating to changes, innovations, and the general development of the Classification.

4.9 Keywords

Atomic DDC Notation: An atomic DDC notation is a semantically indecomposable string that represents a DDC class.

Cataloguers: A librarian who classifies publication according to a categorical system.

Colon Classification: Colon Classification, system of library organization developed by the Indian librarian S.R. Ranganathan in 1933 and is general rather than specific in nature, and it can create complex or new categories through the use of facets, or colons.

Dewey Decimal Classification (DDC): The Dewey Decimal Classification (DDC) system is a general knowledge organization tool that is continuously revised to keep pace with knowledge.

Editorial Policy Committee (EPC): EPC is a ten-member international board whose main function is to advise the editors and OCLC on matters relating to changes, innovations, and the general development of the Classification.

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Facets: A particular aspect or feature of something.

Hierarchy: A hierarchy is an arrangement of items in which the items are represented as being "above," "below," or "at the same level as" one another.

Molecular DDC Notation: A molecular DDC notation is a string that is syntactically decomposable into DNA atoms.

Parentheses: A parenthesis is the insertion of a verbal unit which is incongruous with the normal word flow.

Specials: The term special basic subjects denote a division of a main class in which the subject of study is limited in some special manner.

4.10 Review Questions

1. Explain a brief history of Colon Classification.
2. What are the components of Ranganathan's Scheme?
3. Highlight the five facets of CC.
4. Discuss the basic principles in Colon Classification.
5. Describe the future of Colon Classification.
6. Write a brief note on the Notation in Colon Classification.
7. Explain the merits and demerits of Colon Classification.
8. Discuss the structure and notation of Dewey Decimal Classification.
9. What is the arrangement of the DDC?
10. Highlight the properties of decimal fractions in DDC.
11. Discuss the relevance of Notes in DDC.
12. What is Broad and Close Classification?
13. Define Relative Index.
14. What do you understand by WebDewey?

Answers: Self Assessment

1.	False	2.	False
3.	True	4.	Three
5.	Agglomeration	6.	Isolate
7.	False	8.	True
9.	False	10.	True
11.	False	12.	True
13.	DDC	14.	Hierarchy
15.	OCLC	16.	True
17.	True	18.	False

Notes

4.11 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://kelschindexing.com/colonclassification.html

http://www.isibang.ac.in/~library/portal/Pages/chp1.pdf

http://www.iskoi.org/doc/colon.htm

http://www.oclc.org/content/dam/research/publications/library/2009/mitchell-dvg-elis.pdf

http://www.oclc.org/dewey/resources.en.html

http://www.slideshare.net/ARUNVR2467/mapping-of-knowledge-in-colon-classification

Unit 5: Universal Decimal Classification (UDC)

Notes

CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Brief History of UDC
- Discuss the Main Features of UDC
- Explain the Nature and Structure of UDC
- Explain the Concept of Notation
- Describe the Alphabetical Subject Index
- Explain the Provision for Future Expansion
- Discuss the Maintenance of UDC
- Describe the Merits and Demerits of UDC
- Discuss the Criticisms of UDC

Notes

- Explain the Comparisons with Special Classifications
- Describe the Application to UDC

Introduction

UDC is the second classification of the three schemes of library classification. UDC was original adopted for establishing and maintaining the Universal Bibliographic Repertory, an international bibliography. UDC is an international, and not a national, effort to meet universal needs. The use of decimal notation as a code for expressing the concepts in a documentary classification was first proposed by the physicist André Marie Ampère (1775-1836) and popularized by the American librarian Melvil Dewey in the later 19th century. Now a good number of special libraries are using UDC. In India UDC is more prominent for special libraries.

5.1 Brief History of UDC

The Universal Decimal Classification (UDC) is a thriving, modern indexing and retrieval language, used for organizing material in technical information services and on websites; but it has a history going back a century and more, and its originators, Paul Otlet and Henri La Fontaine, were clearly far-sighted people.

Dewey developed and used his scheme in the library of Amherst College, Massachusetts, and it was published in 1876. This first edition, entitled 'Classification and subject index', was brief, with its 10 pages of tables containing 919 headings, and lacked some of the features later associated with the scheme (it was not called decimal, and contained no decimal fractions); nor was the order of subjects particularly innovatory, deriving from a tradition going back to the Paris booksellers of the 18th century; but it still contained the beginnings of a system that was to prove immensely serviceable and influential. The scheme was expanded in successive editions, and its use spread rapidly throughout the USA and then in other English-speaking countries. It 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 – grouping together works on similar subjects, irrespective of marks identifying individual documents.

In 1895, a further step in the development of decimal classification was taken by Paul Otlet (1869-1944), a young Belgian barrister already noted for his work in bibliography in the social sciences, working with Henry La Fontaine (1854-1943). Under the aegis of the newly founded Institute International de Bibliographie (IIB) in Brussels, Otlet and La Fontaine were working on the projected Universal Bibliographic Repertory, which was intended to become a comprehensive classified index to all published information. A means of arranging the entries would be needed, and Otlet, having heard of Dewey's Decimal Classification, now in its fifth edition (1894), had obtained a copy and been deeply impressed by it. He wrote to Melvil Dewey in 1895 and obtained permission to translate it into French. Otlet and La Fontaine saw in Decimal Classification a taxonomy of human knowledge that could be expressed 'in an international language - that of numbers'; they saw too that, because of the extensibility of decimal numbers, it could readily accommodate the detail needed for bibliographic rather than strictly library use.

Notes The idea outgrew the plan of mere translation, and a number of radical innovations were made, adapting the purely enumerative classification (in which all the subjects envisaged are already listed and coded) into one, which allows for synthesis (the construction of compound numbers to denote interrelated subjects that could never be exhaustively foreseen).

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Various possible relations between subjects were identified, and symbols were assigned to represent them. They also realized that characteristics common to many subjects could be assembled as a separate list. Repeated patterns of digits where the same characteristic of division was applied already existed in decimal classification, but now a step ahead was taken that involved detaching the terminal digits and listing them as tables of auxiliary numbers, which could be added as required by the user. This synthetic principle meant that it was possible to obtain a level of detail much greater than what was actually displayed in the published scheme - higher precision combined with economy of presentation. At the same time, Otlet and La Fontaine were expanding the purely enumerative content, to provide for the extensive requirements of the Repertory, and the result was a scheme both more copious and more sophisticated than its predecessor. It contained about 33 000 subdivisions. It was published by the IIB, in French, from 1904 to 1907, and was called the Manuel du Répertoire Bibliographique Universel ('Handbook to the Universal Bibliographic Repertory'). It was in fact the first edition of UDC.

The scheme continued to expand, though interrupted by the First World War, and work progressed on a second edition, in which editorship was shared with Frits Donker Duyvis of the Dutch Patent Office, who was responsible for the extensive revision and expansion of the science and technology sections. It was published from 1927 to 1933, and by now had over 70,000 subdivisions. The Universal Bibliographic Repertory, the impetus for the scheme, was proving unmanageable, and this edition was now offered independently under the title Classification Décimale Universelle, the name by which (in various translations) it is still known. This edition became the master version of UDC, and remained so until 1993, when a new database became the authoritative source. From 1933 to 1993 the second French edition, as modified and augmented by approved amendments collected in various supplements and later in the serial Extensions and Corrections to the UDC, was the official source for all UDC editions. A third edition, the first in German, was next begun, under the editorship of Carl Walther, and published from 1934 to 1951; this was roughly double the size of the second, about 140,000 subdivisions.

Interest in UDC in the United Kingdom was particularly promoted by the enthusiasm of Dr S C Bradford (1878-1948), who was keeper of the Science Museum Library from 1925 to 1937, and responsible for its adoption of UDC in 1928. The Classification for works on pure and applied science in the Science Museum Library, third edition (but the first to use UDC) was published in 1936, and was the first completed (though selective) edition of UDC in English. It was in fact an abridged edition (about 6000 subdivisions) with emphasis on science and technology. Work was also under way on a translation of the still authoritative second (French) edition, and this was to be the beginnings of a fourth full edition of UDC, the first in English. Parts of this were published in 1936-39, jointly by the British Society for International Bibliography and the Association of Special Libraries and Information Bureaux (BSIB and ASLIB later united to form Aslib, the Society for Information Management). At their request, BSI assumed responsibility for publishing UDC, and, after issuing slightly corrected versions of the existing parts in 1943, continued to produce English editions in the BS 1000 series.

The Institute International de Bibliographie (IIB), after various name changes and relocation to the Hague, became the International Federation for Information and Documentation (FID) and remained the maintenance agency for UDC until 1991. In that year, acting on the recommendations of the specially formed Task Force for UDC System Development, it held talks with several UDC publishers about restructuring the finance, management and maintenance of the scheme to ensure its future into the 21st century. As a result of these talks, the UDC Consortium (UDCC) was formed, with FID, BSI and four other publishers as founder members.

The UDCC assumed ownership of the scheme on 1 January 1992. Its first priority was the creation of a database of 60,000 entries, known as the Master Reference File (MRF), which was completed in the spring of 1993 and is now the authoritative statement of the content of UDC.

Notes

It also appointed an Editor in Chief, Prof. I C McIlwaine, University College London, who is assisted by a Revision Group. The member-publishers have the right to issue UDC editions in their own languages. The rights in all English-language editions rest with BSI. The MRF has grown to slightly over 62,000 entries (at January 2001), and is the source of standard editions of UDC. Abridged editions (e.g., the Pocket Edition in English, PD 1000) and extended versions of some sections are also available.

Did u know? From 2001, the standard edition in English (BS 1000) is available as UDC Online.

The MRF is updated annually in accordance with amendments agreed during the year by the Revision Group. The amendments are also issued as hard copy in the annual Extensions and Corrections to the UDC, published by the UDCC. The current language of Extensions and Corrections is English, but earlier issues also contained material in French and German. UDC Online is updated at the beginning of each year from the latest version of the MRF.

The Universal Decimal Classification (UDC) is an indexing and retrieval language in the form of a classification for the whole of recorded knowledge, in which subjects are symbolized by a code based on Arabic numerals. It was designed by the Belgian bibliographers Paul Otlet and Henry Lafontaine at the end of the 19th century, and has been improved and developed ever since.

The documents that embody knowledge may be in any form; they will often be literature, i.e., written documents, but may equally well be in any other medium: films, video and sound recordings, illustrations, maps, and objects such as museum pieces are all suitable for classification by UDC.

The code may be applied in two ways:

1. It may be transcribed directly on to the documents, and be used to determine their physical arrangement - for instance, of books on shelves, of papers in a file, or of paragraphs in a book.
2. It may be included in the references to the documents, for instance in entries in catalogues or bibliographies.

In many systems, the two methods can usefully be combined. In this way, all information, or references to information, about a particular subject are brought together; they can then be located and retrieved with the minimum of searching.

Self Assessment

State whether the following statements are true or false:

1. Dewey developed and used his scheme in the library of Amherst College, Massachusetts, and it was published in 1976.
2. The UDCC assumed ownership of the scheme on 1 January 1982.

5.2 Main Features

UDC can be used, alike other library classifications, for simple shelf arrangement (to any arbitrary level of specificity/complexity) but is often chosen as a tool by special libraries and bibliographic services for its strength in detailed indexing. Since 1993 it has been regularly revised, structured, updated and maintained by its owner (UDC Consortium).

Notes

It plays an important role in forming the effective and efficient use of UDC on Internet. Merits and demerits all is based on the features. Following are the special features of the UDC.

- ***Enumerative Scheme:*** UDC is almost an enumerative scheme. It has a large schedule of enumerated subjects. It has various subdivisions and table, so it is easy to give the class number to any complex subject. It is easy for UDC to accommodate the newly emerging compound subject or any discipline/sub-discipline.
- ***Standard Scheme:*** It is a standard scheme and is not a system optimized to any particular collection, domain or user group, but it is economic to use for libraries as well as for WWW. It is used by different types of libraries in different countries around the world, and fulfils the needs of its users.
- ***Synthetic Devices:*** The need for synthesis to give manageable schedules at the time as a power to specify new composite subjects in detail implies in equal need for analysis.
- ***Notation:*** Notation is an artificial indexing language. UDC uses Arabic numerals as a notation and arranged the numbers in decimal fractions. For example in the UDC database the 8 digit number 61425384 becomes 614.253.84 (medical confidentiality), which is more manageable. Symbols used for UDC notation are non-language dependent and consist of Arabic numerals, a few familiar mathematical symbols, and common marks of punctuation. According to Lois Mai Chan et al.: "There has been a renewed interest in using subject categorization of hierarchical structures to organize directories for more efficient knowledge discovery and retrieval. And, there is an equally obvious and pressing need for programmes that can accommodate multiple languages (Chan, Lois Mai et al., 2000)"
- ***Universal Scheme:*** UDC contained the universe of knowledge in it. Its classes reflect all the areas of specialized knowledge developed in society. All these specialized areas are put together in 10 main classes. 30 countries maintained their national bibliographies that are organized by UDC.
- ***Mnemonics:*** UDC has one of the other important feature mnemonics, which means, "aid to memory", which is for the subject synthesis. There are lots of tables such as Area table, Language table, and Standard division table etc., which are achieved to use subject synthesis.
- ***Auxiliary Tables:*** Auxiliary tables are of the greatest strength of the UDC, because it constructs the great specificity of expressions through synthesis. It has two auxiliary tables: common auxiliaries and special auxiliaries. Table 5.1 is showing common auxiliaries of UDC. Common auxiliaries is used to express the interrelations between subjects and applicable throughout the main tables. Special auxiliaries are special and do not have extensive applicability. The hyphen series -1/-9, the point enough series .01/. 09 and the apostrophe's series '1/'9 are three main kind of special auxiliaries.

Table 5.1: Common Auxiliary Table

Concept	Symbol
The linking signs-Table 1a and 1b	+, /, :
Language of the document-Table 1c	=…
Form of the document-Table 1d	(0/09)
Place - Table 1e	(1/9)
Race, nationality etc.-Table 1f	(=…)
Time –Table 1g	"…"

Contd....

Notes

Non-UDC codes etc.- Table 1h	#, A/Z
General characteristics- Table 1k, includes	-0…
Properties	-02…
Materials	-03…
Process	-04…
Persons	-05…

Source: http://pure.iva.dk/files/30772829/Amina_Kaosar_Thesis.pdf

- ***Popular:*** Recent research confirmed that UDC is used in libraries and information centres in 124 countries and estimate is that it is used in from 100,000 to 300,000 libraries and institution in the world (Rigby, 1981). In 34 (mainly in Europe, Asia and Africa) it is the main classification and its schedules can be found translated into 39 languages (Slavic, 2006; 2004). UDC is very close in popularity to the more widely used DDC and rather more popular than LC.
- ***Translated into many languages:*** The UDC has been translated into 39 languages and has been widely used all over the world. Printed editions exist in a range of sizes from pocket editions (e.g. French, English), the standard edition (e.g. Spanish, French, English), or expanded versions (e.g. Russian). Electronic versions are similarly available in various languages and formats.

Self Assessment

Fill in the blanks:

3. ……..is an artificial indexing language.
4. The need for ……to give manageable schedules at the time as a power to specify new composite subjects in detail implies in equal need for analysis.

5.3 Nature and Structure of UDC

All branches of human knowledge have a place in UDC, and are treated as parts of a balanced whole. Because of the nature of the subjects, the listed subdivisions in science and technology outweigh those of the arts and social sciences, but these subjects demand different criteria, and are also properly provided for. UDC has been modified and extended over many years to cope with the increasing output in all disciplines, and is still under continuous review so as to take account of new developments.

UDC's most innovative and influential feature is its ability to express not just simple subjects but relations between subjects. This facility is added to a hierarchic structure, in which knowledge is divided into ten classes; each class is subdivided into its logical parts; each subdivision is further subdivided replace the comma by a semicolon and so on. The more detailed the subdivision, the longer the number that represents it. This is made possible by the decimal notation.

In UDC, the universe of information (all recorded knowledge) is treated as a coherent system, built of related parts, in contrast to a specialized classification, in which related subjects are treated as subsidiary even though in their own right they may be of major importance. Thus the specialist may often be led to related information of which he would otherwise have been unaware.

Self Assessment

Notes

State whether the following statements are true or false:

5. Not all branches of human knowledge have a place in UDC.

6. UDC's most innovative and influential feature is its ability to express not just simple subjects but relations between subjects.

5.4 Notation

The symbols chosen for UDC notation are non-language-dependent, and universally recognizable - the Arabic numerals, supplemented by a few other signs familiar from mathematics and ordinary punctuation. They are not only easily readable, but easily transcribable using ordinary office machinery such as typewriters and computer keyboards.

The arrangement is based on the decimal system: every number is thought of as a decimal fraction with the initial point omitted, and this determines the filing order; but, for ease of reading, it is usually punctuated after every third digit. Thus, after 61 'Medical sciences' come the subdivisions 611 to 619; under 611 'Anatomy' come its subdivisions 611.1 to 611.9; under 611.1 come all of its subdivisions before 611.2 occurs, and so on; after 619 comes 62. 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.

5.4.1 The Tables

There are two kinds of table in UDC:

1. The main tables (also called the 'schedules'): these contain the outline of the various disciplines of knowledge, arranged in 10 classes and hierarchically divided.

2. Auxiliary tables, including certain auxiliary signs. The signs (e.g. the plus, the stroke, the colon) are used to link two (or more) numbers, so expressing relations of various kinds between two (or more) subjects. The enumerative tables denote recurrent characteristics, applicable over a range of subjects; the auxiliary is simply added at the end of the number for the subject. The most general of them, called common auxiliaries, are applicable throughout the main tables, and represent notions such as place, language of the text and physical form of the document, which may occur in almost any subject. There are also more restricted series, called special auxiliaries, which express aspects that are recurrent, but in a more limited subject range. They are therefore listed only in particular sections of the main tables.

5.4.2 Parallel Division

Parallel division is a way of creating mnemonic consistency in the classification. Where the same array of concepts is involved in more than one context, there is no point in arranging them differently in each place. It is more helpful to the user if they are predictable – in the same order, and similarly numbered; so there are many places in UDC where a sequence of numbers has the same final digits as another sequence elsewhere, listing analogous concepts. This also means that there is no need to list them fully in both places – the concepts can be enumerated once, and entries in other places can indicate that parallel division is available. This simply means that a given number can be subdivided in parallel with a second number, resulting in an exactly

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analogous array, with the same concepts expressed by the same final digits. A simple example is in 611 'Anatomy', parts of which are parallel to 616 'Pathology', where both are subdivided into particular organs. There is more detail under 616 (the pathology of particular organs), but it would not matter which was chosen as the main place: the point is that they are parallel, and to enumerate organs fully in both places would be a waste of effort. Instead, we have parallel division indicated, e.g. at 611.2 'Respiratory system' (divided like 616.21/.26), or at 611.3 'Digestive system' (divided like 616.3). In these cases, the 616 subdivisions are the source numbers, from which digits may be detached and added to the target numbers under 611; thus 616.21 gives us the analogous 611.21, while 616.31 gives us 611.31, and so on. The parallel arrays may be represented symmetrically:

611.21 Nose. Sinuses 616 .21

.22 Larynx (voice-box) .22

.23 Trachea (windpipe) .23

.24 Lungs .24

.25 Pleurae .25

.26 Diaphragm .26

Caution The numbers in the left-hand column represent these organs in the context of anatomy, while those in the right-hand column represent them in the context of pathology. The list of organs is the same.

5.4.3 Citation Order

Citation order is simply the order in which you combine the elements when you build a compound number.

1. When using the linking signs (7.3.6.1), to build a compound class mark, cite the numbers in ascending order, e.g.

   69+72 Building and architecture

   624+69+72 Civil engineering, building and architecture

   622:69 Mining in relation to building

2. When using different kinds of auxiliary subdivisions added to a main number, cite them in the reverse of the filing order, e.g.

   622"18"(430) = 112.2 Mining - 19th century - Germany - in German

   The order can be varied for particular purposes, e.g. to produce a list in place order:

   (410)622 Britain - mining

   (430)622 Germany - mining

   or to give greater priority to any element in a compound number by citing it first, e.g. 725.5:364-54-053.2 Children's homes (to file under architecture rather than welfare) but if in doubt, follow the standard order.

Notes

3. The independent auxiliaries (7.3.6.2) can be intercalated (7.3.6.3) so as to produce a required filing order, e.g. a country-by-country grouping for an activity such as mining:

   622(410) Mining in Britain

   622(410).333 Mining - Britain - coal

   622(410).34 Mining - Britain - metals and ores

   622(430) Mining - Germany

   622(430).333 Mining - Germany - coal

   622(430).34 Mining - Germany - metal ores

   or for institutions, such as laws, that vary from country to country:

   347.78(410) Copyright laws - Britain

   347.78(410)1 Copyright - Britain - literary

   347.78(410)5 Copyright - Britain - music

   347.78(44) Copyright laws - France

   347.78(44)1 Copyright - France - literary

   347.78(44)5 Copyright - France - music.

4. Common auxiliaries can be intercalated if they have bi-terminal signs (7.3.6.3) - in other words, any of the independent auxiliaries except language. However, a language auxiliary can be followed by a colon.

5.4.4 Special Auxiliaries

These are used when some property of an object is under consideration, or when some process is relevant to an object being studied, or when considering the development of an object, etc. Special auxiliaries are used with class numbers that begin with 52 to 524. The notation for an auxiliary is a hyphen (–) followed by up to 3 digits, placed after the main class number. Here is a breakdown of the main aspects:

52-1 Mode of treatment

52-2 Not in use at present

52-3 Properties and Phenomena (Especially Geometrical)

52-4 Processes Relevant to Bodies and Systems

52-5 Stages in Development of Bodies and Systems

52-6 Processes Relevant to Radiation

52-7 Character of Radiation

52-8 Parts and Features of Individual Systems

Below is part of the further breakdown for 52– 7:

52-7 Character of Radiation

52-72 Corpuscular Radiation

52-724 Protons and Atomic Nuclei

Notes

52-726 Plasma

52-728 Neutrinos

52-73 Very Short Wave Photons

52-732 Gamma Rays

52-735 X-rays

52-739 Extreme Ultraviolet

Example: If we needed to classify a book on radio emission from the atmosphere of Venus, we would have the string: 523.42 – 77. This follows from the class number for Venus, 523.42, combined with the auxiliary for radio radiation, namely – 77.

1. If the topic of a book concerned aspects of the solar photosphere in visible light, we would have: 523.942 – 75. This follows from the class number for the solar photosphere, 523.942, combined with the auxiliary for visible radiation, namely –75.
2. Where no particular object is dealt with, for example in a text on radio astronomy, the following number would be used: 52–77.

Self Assessment

Fill in the blanks:

7. ……is a way of creating mnemonic consistency in the classification.
8. The ……are used to link two numbers, so expressing relations of various kinds between two subjects.

5.5 Alphabetical Subject Index

The publication of Alphabetical Subject Index was issued in 1988. The entries in the index highlight the terminology that is used in the schedules. In many instances, qualifiers are not added in each term depicting the context where the term is used. In order to tide over this obstacle, few index entry comprise of 'term' followed by numerous class numbers.

Example: Axes is indexed as well as unqualified to five numbers 581.44, 621.968, 622.231, 631.342, 672.719. So in order to understand this context where all these five class numbers are used, any one has to refer to the schedules.

However, this index does not depict the listed context of the terms. Instead it highlights the range of possible locations for a specific concept. Thus, the index entry arrangement is word-by-word. Hence it is advised to the index users not to classify a document exclusively on the basis of index but to affirm the class number in the schedule. Following is the index sample entry:

Lighters 629.123.15, 662.58

Cigar and cigarette 662.592

Electric 662.593

Flint .662392

Pocket 662.59

Using solar heat 662.591

Self Assessment

Notes

State whether the following statements are true or false:

9. The publication of Alphabetical Subject Index was issued in 1968.

10. Index highlights the range of possible locations for a specific concept.

5.6 Maintenance of UDC

The duty and task for UDC in updation and maintenance lie with the International Federation for Information and Documentation (FID). The FID however, acts in conjunction with national firms which are having the consultative arrangements with scheme users. Thus, it is the Classification Sector of FID which sustains the UDC Master Version integrating all approved amendments. The scheme is periodically revised. The amendments aimed by users by their national agencies which are disseminated as P-Notes to subscribers. As soon as they become acceptable they could either become abridged, enlarged or withdrawn. Thus, it becomes the duty of the user libraries to work the amendments that are appearing in the periodical so as to make sure about the day today happenings. Thus, from all users of UDC, from all users of UDC are always welcome.

5.6.1 Provision for Future Expansion

As we have studies earlier that wherever necessary the notation of UDC can accommodate emerging new concepts as well as decimal. UDC has resorted to what is known as a "gap device". Thus, in the notation all these gaps are depicting for incommoding various subdivisions are left where future expansion is envisaged. Therefore, you can see the vacant numbers in the notation which are as follows:

142–159.8 in Philosophy and Psychology

365–367 in social welfare

375 in Education

4 the class philology transferred to 8 Literature

538.1–538.8 in Physics

544–545 in Chemistry

Hence, from the above notation, you can examine how UDC has provided for future expansion.

Self Assessment

Fill in the blanks:

11. UDC has resorted to what is known as a ……..

12. ……..can accommodate emerging new concepts as well as decimal.

13. The duty and task for UDC in updation and maintenance lies with the International ……..

14. It is the Classification Sector of FID which sustains the UDC Master Version integrating all approved ……..

Notes

5.7 Merits and Demerits of UDC

UDC is the analytico synthetic classification scheme, which has number of merits and demerits. For improvisation of any system we should be clear about their merits and demerits and then make to step towards their demerits. Following are the merits and demerits of UDC:

5.7.1 Merits of UDC

During the examination of different authors, came to know that a lot of people are arguing in the favour of using UDC to classify online data.

- ***Hierarchical order***: One feature of the UDC that makes it especially useful for online retrieval is its expressive notation. The UDC is a hierarchical classification, which means that it develops progressively from the general to the specific in disciplinary and subject relationships. Even so, the overall arrangement is not necessarily theoretical or logical. The UDC is built on the premise that no one class can cover all aspects of a given subject. Williamson points out that "Hierarchical relationships are the essence of all classification. Enumerative classifications systems provide a systematic arrangement of subjects according to set of principles based on an accepted philosophy of the organization of knowledge, on patterns established on the basis of literary warrant, and frequently, on a combination of both. However, classified order is not self-evident. Some method or device is required to preserve the relationships among classes, subclasses, topics and subtopics. In some classification systems, for example UDC, these relationships are preserved and may be manipulated through the hierarchical notation. LCC does not fit this pattern. Its notation preserves order but does not reflect hierarchy…some other means must be found to preserve those relationships. The number of digits that form the UDC number indicates the sequence of subjects from general to specific. As shown in Table 5.2, when the UDC number 616.936 for the topic "Malaria" is shown in the context of its UDC hierarchy it can be seen that "Various types of fevers" "Communicable diseases. Infectious and contagious disease, Fevers" and "Malaria" are at the same hierarchical level. The UDC number 616.1/9 corresponding to the heading "Specific pathology" is one digit shorter than those used to indicate specific kinds of disease and is considered to be broader or superordinate to those with longer numbers. Indentation is also used to indicate hierarchy. Through both notation and indentation, this example shows that each topic except for the main class 6 "Medical Technology" is subordinate to and part of all the broader classes above it.

Table 5.2: Hierarchical Structure

6	Applied Sciences, Medicine technology
61	Medical Sciences
616	Pathology. Clinical Medicine
616.1/9	Special pathology
616.9	Communicable diseases. Infectious and contagious disease, Fevers
616.92/93	Various types of fevers
616.936	Malaria. Marsh Fever. Paludism

Source: http://pure.iva.dk/files/30772829/Amina_Kaosar_Thesis.pdf

Notes

- ***Flexibility:*** UDC is a highly flexible and effective system for organizing bibliographic records for all kinds of information in any medium. UDC is highly flexible to allow for constant revision in order to keep pace with development of knowledge. Flexibility of UDC for responding to complex interrelationship among subjects is more than DDC and LC.
- ***Precision:*** Precision is one of the most important merits of use of UDC on Internet. When any searcher retrieves the information through the classified websites from WWW then the precision will be high. Classified websites has better precision than search engines such as Google, Yahoo, Infoseek, etc.
- ***Browsing:*** UDC is a good knowledge organisation tool, which provides a hierarchical browsing. Browsing is particularly helpful for inexperienced users or for users not familiar with a subject and its structure. Hierarchical structures and other features do support of the browsing. For known item, search capability is optimum. For subject type queries where specific items are not known, searching is often not effective as browsing. The Internet services that use UDC to organise digital collections are using a browsable classified structure and can further optimize access to their resources by exploiting features available in the current version.
- ***Hospitality:*** Hospitality is one of the merits of the UDC to go so far since 1904-1907. Hospitality is also known as other terms by different researchers. Bliss called it expansive and adaptive quality of notation. Berwick Sayers names it flexibility and defines it "a notation, which is so constructed that, by the addition of a symbol or symbols, any new subject may be inserted into any place in the classification without dislocating the sequence of either the notation or the classification itself" (Sayers, 1962).

Did u know? To keep pace with the knowledge and to survival of the classification scheme, must provide a ways and means to accommodate the new subjects. The notational systems have adequate versatility to place new classes, which the idea plane demands.

- ***Speed of updates and degree of support:*** Since 1992 the speed of updates and degree of support became a merit of UDC, which was the weakest and serious consideration point before it. In 1992 the UDC ownership has been transferred from FID to UDC Consortium a non-profit organization of publisher based in The Hague. The best classification systems are constantly being reviewed and improved and there is still need to speed up the update of UDC.
- ***Synthetic Principle:*** The synthetic principle is one of the main reasons for the widespread use of UDC in preference to other systems. It extended the use of common tables, geographical subdivisions and viewpoints, all of which were established to different degrees in previous classifications, and added the 'colon principle' whereby every part of the classification became divisible by every other part. This, with the growing complexity of knowledge, was an invaluable invention.
- ***Revision and maintenance:*** It is one of the greatest merits towards the use of UDC on Internet. The development and maintenance of UDC was achieved by International Federation for Information and Documentation (FID) since its origin around 1900. But during the 1980s, it became clear that a more broadly based, and financially autonomous, organization was needed to administer and exploit UDC, and FID together with the publishers of the Dutch, English, French, Japanese and Spanish editions became founder members of a new body, the UDC Consortium (UDCC). The Consortium assumed ownership of UDC on 1 January 1992. One of its first actions was to create an international

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database, which could be the source of many kinds of UDC edition. It is called the Master Reference File (MRF), and is held at the Royal Library in The Hague, and updated once a year. The UDCC has also appointed an Editor in Chief and an Advisory Board with international membership, to oversee the content of UDC and contribute to its revision (http://www.udcc.org/). To remain viable, it is important to get the needed feedback from the institutions and do the revision. Revising a classification scheme is essential to accommodate the new subjects, to delete obsolete terms with current one and to rectify problems. D.J. Foskett (1989) the objective of revising a classification scheme "is to give library users an opportunity to see a spectrum of the universe of information displayed in an order that makes sense, which enables them to discover how the experts in each field think it best or arrange their information".

5.7.2 Demerits of UDC

Following are the demerits of UDC:

- ***Enumerative Scheme:*** Enumerative schemes were sufficient in the early days because there was not a great number of a material to be classified. Knowledge at that time was not growing as dynamically as it is growing now days. However, one of the major drawbacks is that there is "a rigidly specified network of pathways leading to rigidly grouped collections of items" (Vickery, 1966). It is not possible to put the newly developed class into existing class. Classification schemes like the UDC, DDC and the LCC are limited in their ways of bringing out the full field of subjects in an information package. Therefore, the need arises to investigate other ways of organizing knowledge. The Universal decimal classification is an enumerative scheme as well some elements of the faceted classification are also involved. "An enumerative scheme with a superficial foundation can be suitable and even economical for a closed system of knowledge…what distinguishes the universe of current knowledge is that it is a dynamical continuum. It is ever growing; new branches may stem from any of its infinity of points at any time; they are unknowable at present. They cannot therefore be enumerated here and now; nor can they be anticipated, their filiations can be determined only after they appear" (Ranganathan, 1951). Ranganathan thus expresses the views:

  1. That enumerative system has a superficial foundation.
  2. That the discovery of new knowledge cannot be anticipated in an enumerative system.
  3. That the discovery of new knowledge can be anticipated in a faceted system (based on the view that new knowledge is formed by combination of a priory existing categories).

- ***Disappearance of Directories:*** Library professionals were very optimal for the subject classified websites to browse and search. For search services, the way in which the two contrasting approaches to finding information are (or are not) addressed can determine the entire character of the service and reflects one of the major trends in search engine history. In Yahoo and Google directory function has also been changed but both are still focused on the main page and three clicks down respectively. At that point, other search engine leaders including Lycos, Excite, GO Network, and HotBot gave a prominent place on their home pages to directory categories. Alta Vista provided a lesser placement for its directory, and Google, Northern Light, and later all the Web featured no directory categories on their main pages. Directory users are particularly receptive because they consult them when they have a real need and are therefore ideally open to information. We could see the disappearance of directories because general directories have become largely irrelevant. The shift from the use of directories to the use of search engines can be

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taken as strong evidence that search engine results have significantly improved over the last few years (Hock, 2007).

- ***Out of date:*** The main problem faced by library classificationists was the need to issue new editions and improvements of their respective schemes as time passed. It is one of the barriers in development of the classification. There have been recent attempts to improve the management of the classification and to speed up the revision process (Gilchrist, 1992).
- ***Literary warrant:*** Diane used the aspect of literary warrant in favour of library classification schemes. As she says Classes are added or revised only after sufficient literary warrant is demonstrated and classes are removed with even greater caution (Vizine-Goetz). UDC captions are mainly based on literary warrant and that they attempt to represent the universe of knowledge as this is discovered by science and scholarship. Also they are mainly "positivist" in the sense that is assumed that one way of organizing knowledge is simply the best for all purposes and that the task of interpreting the subjects in documents is a neutral rather than a value-based task (Hjorland, 2005). Whereas Yahoo uses its own directory structures and new categories are added when required (Saeed and Chaudhry, 2001).
- ***Less Exploitation:*** More than thousands of libraries and bibliographic services and legacy systems are using UDC but do not fully exploit UDC.
- ***Assumption:*** We assumed that UDC is a Universalist classification scheme. Universality means that it handles all subjects with growing degree of information. While many kernels and concepts of the main classes are missing and class 4 is vacant for new evolving classes.
- ***Not synthetic enough:*** Many of the criticisms levelled at the UDC at the intellectual level are concerned with its hierarchical structure in the main classes. Common subdivisions, special analytical divisions and the use of the colon are not enough to make clear the interrelationships in modern knowledge. If we now criticize the UDC, it is because its very success encouraged new thinking and opened up the possibility of systematizing some of the haphazard usage of its invention. Further common subdivision and further special analytical divisions for more schedules might help, but probably would not go far enough. For one reason or another, the UDC has not been able to keep up with these developments. There is therefore a need to create some auxiliary tables and to revise the UDC.
- ***Limited number of semantic relationship:*** In any complex subject the signs like colon (:), plus (+), slash (/), double apostrophes ("") and bracket (()) used to represent interrelations between subjects and express the concepts. These signs serve as a relator. Not many kinds of relations are distinguished: the plus and slash represents kind of aggregation (the sum of meanings of several UDC numbers), while the colon serves for most other relations. When class number in UDC linked by colon, it shows that the subjects denoted by the numbers are related to each other in some way; it does not specify which influences the other, nor it shows the nature of the influence exerted. However it does not denote the phase of relation. So to clarify the semantic relationship between subjects, there is need to develop give more semantic relators.
- ***Uneven Maintenance:*** Uneven maintenance is the disadvantage, which is seriously affecting the use of UDC. It can be sort out if the new concepts are constantly added to follow the growth of knowledge in all fields/classes. UDC uneven maintenance of the UDC causes unequal division of the conceptual content. Uneven maintenance is one of the responsible factors to switched BUBL and OMNI from UDC to DDC.
- ***Accuracy:*** When auxiliaries and punctuation are inconsistently applied we get a code language, which is impossible to manage with accuracy.

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- ***Brevity:*** Brevity is length of the notation to express the same concept. Notation should be as brief as possible. The notation used in the UDC effect directly the class number allotted to the document. In most of the complex subject case UDC has a lengthy class number. These class numbers has been used to mechanize the system. Therefore, the lengthy notation of the subjects can effect to the recall.
- ***Inconsistency:*** In order to solve the problems of inconsistency and generality of classification in the database studied, but research and development are needed. While the research should be directed mainly at clarifying the differences in classification practices, one should add more specific UDC classes to database consistently while taking into account different conceptual points of view. UDC has features, such as the auxiliaries and the signs of association, which are not only elegant. But which could be important devices in use of classification in online system.

Self Assessment

State whether the following statements are true or false:

15. UDC is the analytico synthetic classification scheme.
16. Precision is one of the most important demerits of use of UDC on Internet.

5.8 Criticisms of UDC

In order to make the comments on the scheme, invitations were given to many special librarians who are using the UDC for science and technology. However, users praise its:

- Universality
- Flexibility
- The relation signs that permit unlimited definition.

Often ascribed to lack of funds, general criticisms are made of slowness in revision as well as inadequate indexes while few may identify its notation either confusing or over-elaborate. Slow revision may lead to inadequacy in freshly developing subjects. For Example Plasma physics, Guided missiles, the Solid state, Astronautics, etc. The separation of pure and applied science is the most wide spread criticism. The differentiation of 54 and 66 is criticized though some may consider it workable. There is no correspondent segment for Technical physics.

'Therefore 536.48 and 621 .561 .57 overlap and at times it may involve very arbitrary decisions.' 'In 533 and 626/7 there is a huge amount of repetition.' The separation of 57/59 from 63 makes troubles. Such explicit criticisms, although showing some of the facilities as required by users, do not in themselves provide more than general guidance as to the direction in which the UDC should be formulated. A more detailed as well as implicit criticism is given by a study of special schemes that have been built as preferable choices to the UDC for information indexing. Thus, it has been possible to make such studies for some fields of knowledge.

Self Assessment

Fill in the blanks:

17. In order to make the comments on the scheme, invitations were given to many special ……who are using the UDC for science and technology.
18. The ……..of pure and applied science is the most wide spread criticism.

5.9 Comparisons with Special Classifications

Notes

UDC was begun in 1895 by two Belgian lawyers, Paul Otlet and Henri La Fontaine, for the classification of a huge catalogue of the world's literature in all fields of knowledge. Otlet wrote in 1897 that "this repertory will consist of an inventory of all that has been written at all times in all languages, and on all subjects, a kind of artificial brain dealing with everything."12 Otlet and La Fontaine dreamed of universal peace coming through the help of hyper-documentation. Although they did not see either world peace or completion of an inventory of knowledge, their dream of a repertory of the world's knowledge may be coming to pass on the World Wide Web.

UDC was based on the DDC (then in its fifth edition) but was, with Dewey's permission, expanded by the addition of many more detailed subdivisions and the use of typographical signs to indicate complex subjects and what we know today as facets. DDC's decimal notation was retained (except for final zeros), but for long numbers a decimal is placed after every third digit, e.g. 546.791.027*238 (the number for elements, with *238 being the atomic number for uranium). The 10 main classes as well as some subdivisions are still the same in UDC as they are in DDC, but class 4 (i.e., DDC 400) has been amalgamated with class 8 and is currently vacant. Many major and almost all minor subdivisions are now quite different from those in DDC. The main difference lies, however, in the synthetic structure of UDC. A work dealing with two or more subjects can be classed by two or more UDC class notations, linked by a colon sign (the most commonly used of the typographical symbols), as in the following example:

362.1: 658.3: 681.31 Hospital: Personnel management: Computers

For a work on the use of computers in the management of hospital personnel. Such a class notation is, however, not a "call number" but is intended for a classified catalogue in which each of the three class notations may serve as an access point, while the other two are shown in rotation, e.g.:

658.3: 681.31: 362.1

681.31: 362.1: 658.3

If UDC is to be used for shelf classification, one of the three class notations may be chosen as a call number for a work on this complex subject. UDC's faceted structure has its roots in DDC's device for indication of place, namely, the intercalation of –09 followed by the class notation for a country or region, e.g., –0973 for the United States. UDC uses many of the same place notations as DDC but encloses them in parentheses. For example, "plant cultivation in the U.S." is 631.50973 in DDC but 631.5(73) in UDC (note that the main class notation is the same in both). In addition to the place facet UDC also has specific symbols and notations for the language of a work, its physical form, nationalities and peoples, time periods, materials, persons, specific points of view, and recurring subdivisions in certain classes, all of which can be appended to basic notations either alone or in combination, as in the following example:

631.5 Plant cultivation—written in Russian

631.5(038) —Glossary

631.5"17" —18th century

631.5(= 97) (85) —By American Indians in Peru

Due to this highly faceted structure and largely expressive notation the UDC has been used successfully in computerized information retrieval. UDC schedules were first published from 1904 to 1907 in French, followed later by full editions in English. UDC has since been published in whole or in part in 23 languages. It is widely used in many countries where English is the main or a co-official language (e.g., the British Isles, Canada, Australia, New Zealand, India) and in countries using other languages (e.g., Germany, Japan, Russia, Spanish speaking countries).

Notes

Until 1992 UDC was managed by the International Federation of Documentation (FID) in the Hague (Netherlands). When it became apparent in the 1980s that a more broadly based organization was needed to administer UDC, FID and the publishers of the Dutch, English, French, Japanese, and Spanish editions combined to found a new body, the UDC Consortium (UDCC). An early action of the UDCC was to create an international database that would be a master file. The database, called the Master Reference File (MRF), now containing more than 66,000 entries, is held at the Royal Library in the Hague and is updated once a year. An Editor-in-Chief and an Editorial Board of international membership oversee the continuous revision and expansion. Since 1992, UDCC has maintained the scheme by reviewing its content and initiating revisions and extensions. The results are published in Extensions and Corrections to the UDC. A two-volume, easy-to-use edition of UDC was published in a "complete" edition by the British Standards Institution in 2005. It is derived from the MRF. Supplements are issued each year, each one cumulating all previous ones so that one has only to look in two places for the latest notations. An abridged edition, containing about 4,100 entries, was published in 2003. "UDC Online" is an electronic version of the complete edition of UDC and is available by subscription. Its features are similar to features of WebDewey. In the United States UDC is used mainly in some scientific and technical libraries and by one abstracting database. More detailed descriptions of the UDC, its development, and its application may be found in a number of publications.

Task Compare and contrast UDC with Special Classifications.

Self Assessment

State whether the following statements are true or false:

19. UDC was not based on the DDC.

20. Until 1992 UDC was managed by the International Federation of Documentation (FID) in the Hague.

5.10 Application to UDC

UDC works extremely well with computers, as it did with earlier automatic sorting devices. Scrolling through an on-screen display in classified order makes for productive browsing; and UDC's distinctive symbols make it possible to perform searches for any part of a compound number or for specified combinations of symbols, so providing highly accurate subject retrieval. UDC's combination of numerical codes and natural-language descriptions makes it amenable to numerical and alphabetic sorting, in maintaining tools such as catalogues, authority files and indexes. Both keepers and users of information sources are well served by UDC.

A core version of UDC, with 60,000 subdivisions, is now available in database format, and is called the Master Reference File (MRF). The descriptions are currently in English, with other languages expected to follow. To start with, there was only one version of UDC, which would now be called a 'full edition', but there are now editions of various lengths. An idea of the growth of UDC is given by the number of entries in successive full editions. The first edition (1905–1907) had about 33,000, the second edition (1927–33) over 70,000, and the third (1934–48) probably double that, 140,000. Nowadays there are more than 220,000 direct subdivisions.

Caution To meet the demand for more manageable versions of UDC, briefer editions have also been developed.

Self Assessment

Notes

Fill in the blanks:

21. UDC works extremely well with computers, as it did with earlier automatic …….. devices.

22. A core version of UDC, with 60,000 subdivisions, is now available in database format, and is called the ……

Case Study

The Library of Congress

Dewey Decimal, and Universal Decimal Classification Systems are Incomplete and Unsystematic

When the number of libraries using a specific classification system is taken into consideration alone, Universal Decimal Classification (UDC) is acknowledged as the second most used classification in the world. As frequently noted in classification textbooks, UDC is very close in popularity to the more widely used Dewey Decimal Classification (DDC) and rather more popular than the Library of Congress Classification (LCC). Regardless of any such categorisation, however, it is notable that UDC is used in the organization and retrieval of a vast amount of documentation in libraries and information centres worldwide. UDC was created in 1896 and was based on the Dewey Decimal Classification system. It was then further developed in terms of structure, vocabulary and syntax to be used as a more detailed and flexible, synthetic indexing language for information retrieval. Its first edition was published from 1904-1907.

UDC development, translations to various languages and its use across continents, were driven by the global membership of its owner - the International Federation of Documentation (FID), until its decline in the 1980s. UDC was said to be the most important legacy of the FID which, after two decades of financial and organizational struggle, finally ceased to exist in December 2000 (Horton, 2003). In 1992, the ownership of the UDC and the responsibility for its maintenance and distribution was transferred to a consortium of publishers (the UDC Consortium). This resulted in an improvement of the classification management which has since focused on the maintenance, revision and update of the standard 60,000 classes, rather than its full edition of 200,000. The immediate benefit was that in the period from 1993-2005 a significant proportion of the scheme was revised and updated (see http://www.udcc.org/major_changes.htm). In addition, since 1993, a standard UDC scheme can be purchased as a database file (in English): the UDC Master Reference File, a licence for which is issued by the UDC Consortium.

Updates of the UDC MRF are released annually and since 1993 a new version of the UDC is made available in January each year. Bibliography of translations confirmed the existence of various UDC editions, printed and electronic, in no less than 39 languages (Slavic, 2004). After a decline in use of documentary classifications in the 1970s and 1980s, there was a noticeable revival of interest in the application of classification in resource discovery on the Internet and especially in the use of existing schemes in supporting automatic classification in the 1990s. The value and role of classificatory vocabularies in information organization and resource discovery has often been emphasized (e.g. Fugmann, 1990; Soergel, 1999; Hodge, 2000; McGuinness, 2002, also Slavic, 2005: pp. 2). Library classifications, for instance, have been increasingly used for cross-collection and cross-domain searching:

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not only to support simple resource browsing but also to underpin vocabulary mapping and multilingual resource discovery (cf. Slavic, 2006a). In the period 1992-2006, the UDC was applied in resource organization, for a longer or shorter period of time, in nine quality subject gateways with an English interface and numerous smaller directories (3). After 2002, subject gateways using UDC have been more predominant in Central and Eastern European portals (Stoklasovà, 2003). The general trend in resource discovery on the Internet is to use classification, in this case UDC, behind a system, as a mapping mechanism between different indexing systems or languages or as a source of structured terminology for automatic text processing and categorization. A similar trend could be said to be present in union library catalogues in library networks with a tradition of and good practice in UDC use. Here UDC can be more often seen as part of subject authority data supporting information retrieval via mapping to other classifications or subject heading systems in more than one language (Balikovà, 2003; Slavic, 2006).

In response to the described changes and needs in information organization and discovery, the UDC Consortium is considering the improvement and wider dissemination of machine readable UDC data. Among other things (such as a better structural and semantic linking of the scheme) this would include a mapping to other special and general classification systems, multilingual features and exports of UDC data in different standard vocabulary formats.

Classification user surveys are usually commissioned or conducted by a scheme owner or publisher. In the case of UDC, and up to 1992, this was the FID. After 1992, monitoring of the number of users seems to have been left to the individual UDC Consortium members i.e. publishers holding the rights to publish in a given language; e.g., BSI for English, Asociación Española de Normalización y Certificación (AENOR) for Spanish, Vserossijskij Institut Nauènoj i Tehnièeskoj Informacii (VINITI) for Russian etc. The UDC Consortium as their representative body did not publish or disseminate any centrally collated data on UDC users worldwide. Whatever the reason may be, the fact is that there is no official, publicly available, estimate of the total number of countries or institutions using UDC in the period 1992-2006, or for that matter, since the 1980s. Other known sources of survey data are national or international cataloguing agencies or library networks recording the use of indexing systems (4). Unfortunately, information on these surveys is hard to access and merge for such a widely used system as UDC, and it would be almost impossible to produce any complete or exhaustive account of these data in a shorter period of time. The background of this research concentrated, therefore, on the last available published survey data (in English) and several unpublished surveys from the period 1989-2003. Also, there were a few articles discovered estimating the number of UDC users based on obsolete data which mainly illustrated and justified the need for new research.

The last published survey on UDC use was on UDC users in the U.K. in 1979–1980 by Hindson (1981) who established that there were, at the time, 640 libraries using UDC in the U.K. and Northern Ireland (out of 2,895). Later articles and papers operate with numbers published in the 1980s and earlier. Thus Sukiasyan (1988: 69) reports that the broad library network in the former USSR consisted of 300,000 libraries and the UDC was used as an obligatory system only in scientific-technical libraries. Gilchrist (1992) refers to the FID survey from 1968 which reported that there were a total of 100,000 users, mostly in the USSR, European countries, Latin America and Japan. Based on articles from the 1980s, which largely recycled even older information, Nilbe (1997) reached a count of 60 countries and 100,000 institutions using UDC worldwide. Information on the very last (unpublished) FID survey was discovered in the report of the Task Force for UDC System Development from February 1990 which briefly mentioned a UDC user survey conducted in 1988–1989(5). Apparently, the purpose of this survey was both to get information on who

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Notes

used the UDC and in what way, and to invite their ideas on deficiencies and priorities. The survey was based on a printed A4 questionnaire (parallel texts in English, German and French). Preparation began in 1988 and the collation of the returned data was completed before the end of 1989. Distribution was both direct (using mailing lists e.g. of subscribers to the Extensions & Corrections to the UDC) and indirect (with the help of FID national members, national UDC committees, and publishers of the various editions). For example, advantage was taken of the distribution of the English Medium Edition in 1989 as BSI agreed to enclose a questionnaire with each completed order. Results showed that there were 339 completed forms returned from institution using UDC in 50 countries. According to D. Strachan (2004), the FID UDC Management Board decided that the returns were not sufficient to merit further action beyond making the survey results available to its Task Force for UDC System Development, which was doing its work at that time and no report was published.

In 1989-1990, The Task Force for UDC System Development, on the other hand, did their own investigation of 27 institutions using UDC. The institutions mentioned in their report were: eight libraries in the U.K., a Japanese library, an Eastern European National Bibliographic Agency, a Nigerian University, an African Documentation Centre, nine libraries from Denmark, Finland, Norway and Switzerland (the name of the institutions were not provided), and six Austrian libraries (the full name of the institutions were given). Investigations were based on a questionnaire (13 questions) that focused on the way in which each institution used UDC and their expectations from the scheme. Reports indicated that some of the interviewees were considering a change to another classification scheme in the future (Finland) and some to abandon using classification all together if this would pose a problem for automation, as was the case in Austria (see Task Force for UDC system development, 1990). In 1991, the International Association of Technological University Libraries (IATUL) did a survey on classifications in use within their member libraries and of the 87 (46%) questionnaires returned, UDC was used in 37 libraries in 18 countries and appeared to be the most popular classification system. This report also revealed that a number of libraries were planning changes, expecting that with the development of OPACS, searching would be carried out by keywords with a classification system in the background (IATUL, 1990). In the summer of 1994, BSI conducted a survey with the assistance of the British Council. The goal was, obviously, to establish the total number of potential customers for UDC products in English. A questionnaire was circulated with every unit of its UDC product sold (135 sent - 51 returned) and 65 letters were sent to British Council offices. The total number of countries covered was 61. Replies from the British Council (32 in total) confirmed the use of UDC in 15 countries (BSI DISC Brief report on UDC survey, 1995). In 2003, the developers of IUFRO Global Forest Decimal Classification - formerly the Oxford Decimal Classification for Forestry, which was developed and is usually used in conjunction with UDC - conducted a survey of forest libraries in 27 countries. Their data showed institutions using UDC in the special forest libraries of 19 countries (Holder & Saarikko, 2003).

The use of classification in general, or UDC for that matter, ought to be observed within a wider context and over a longer period of time as there are various factors to be taken into account. One such well-known factor is the application of free text searching in information systems within libraries and information services which abated the interest in classification in general and affected the number of users throughout the 1980s and 1990s. In parallel with this, the pressure to reduce staff and cataloguing costs made many libraries change from UDC to Dewey which came (readily assigned) as a part of the OCLC bibliographical package. The migration from UDC to DDC started to be more evident in 1990s and was especially so in western European and English speaking countries for which the OCLC

Contd....

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was able to provide bibliographic records for the majority of collections. It would be, however, wrong to make any hasty generalizations. Just as libraries are slow to adopt a system, they are equally slow to abandon it, notwithstanding the comparative quality of UDC itself. Expansion of library networks nationally and internationally favours the dominant classification system within the region and in some parts of world this may be UDC, while in others this cannot be the case. In addition, resource discovery on the Internet and a trend in the merging and federation of large digital and hybrid collections on a national and international level, contributed to the interest in classification with yet uncertain impact. These changes in the information environment have coincided with the changes in UDC ownership, management and distribution since 1992 which, all together, makes it more relevant to seek up-to-date information on UDC users.

Questions

1. Critically analyse the above case.
2. Write down the case facts.
3. What do you infer from the case?

Source:http://arizona.openrepository.com/arizona/bitstream/10150/105579/1/UDCuse_aidaslavic_preprint.pdf

5.11 Summary

- Dewey developed and used his scheme in the library of Amherst College, Massachusetts, and it was published in 1876.
- The idea outgrew the plan of mere translation, and a number of radical innovations were made, adapting the purely enumerative classification (in which all the subjects envisaged are already listed and coded) into one, which allows for synthesis (the construction of compound numbers to denote interrelated subjects that could never be exhaustively foreseen).
- Interest in UDC in the United Kingdom was particularly promoted by the enthusiasm of Dr S C Bradford (1878-1948), who was keeper of the Science Museum Library from 1925 to 1937, and responsible for its adoption of UDC in 1928.
- The UDCC assumed ownership of the scheme on 1 January 1992. Its first priority was the creation of a database of 60,000 entries, known as the Master Reference File (MRF), which was completed in the spring of 1993 and is now the authoritative statement of the content of UDC.
- The MRF is updated annually in accordance with amendments agreed during the year by the Revision Group.
- UDC can be used, alike other library classifications, for simple shelf arrangement (to any arbitrary level of specificity/complexity) but is often chosen as a tool by special libraries and bibliographic services for its strength in detailed indexing.
- UDC's most innovative and influential feature is its ability to express not just simple subjects but relations between subjects.
- The symbols chosen for UDC notation are non-language-dependent, and universally recognizable - the Arabic numerals, supplemented by a few other signs familiar from mathematics and ordinary punctuation.
- The publication of Alphabetical Subject Index was issued in 1988.

Notes

- If UDC is to be used for shelf classification, one of the three class notations may be chosen as a call number for a work on this complex subject.

5.12 Keywords

Auxiliary: An auxiliary verb is a verb used to add functional or grammatical meaning to the clause in which it appears.

Citation Order: It is simply the order in which you combine the elements when you build a compound number.

Document: A piece of written, printed, or electronic matter that provides information or evidence or that serves as an official record.

Enumerative: An enumeration of a collection of items is a complete, ordered listing of all of the items in that collection.

Federation for Information and Documentation (FID): The International Federation for Information and Documentation (FID) was an international organization that was created to promote universal access to all recorded knowledge.

Notation: A series or system of written symbols used to represent numbers, amounts, or elements in something.

Parallel Division: Parallel division is a way of creating mnemonic consistency in the classification.

Schedules: Arrange or plan (an event) to take place at a particular time.

Universal Decimal Classification (UDC): The Universal Decimal Classification (UDC) is an indexing and retrieval language in the form of a classification for the whole of recorded knowledge, in which subjects are symbolized by a code based on Arabic numerals.

5.13 Review Questions

1. Discuss the brief history of DDC.
2. Explain the main features of DDC.
3. Highlight the main features of DDC.
4. Describe the tables in Notation.
5. Define Parallel Division.
6. What do you understand by Citation Order?
7. Write brief note on Alphabetical Subject Index.
8. What are the provisions for future expansion?
9. Discuss the maintenance of UDC.
10. Highlight the merits and demerits of UDC.
11. Describe the criticisms of UDC.
12. Discuss the comparisons with special classifications.

Answers: Self Assessment

1. False
2. False
3. Notation
4. Synthesis

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5.	False	6.	True
7.	Parallel division	8.	Signs
9.	False	10.	True
11.	Gap Device	12.	UDC
13.	Federation for Information and Documentation (FID)		
14.	Amendments	15.	True
16.	False	17.	Librarians
18.	Separation	19.	False
20.	True	21.	Sorting
22.	Master Reference File (MRF)		

5.14 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://shop.bsigroup.com/Navigate-by/Assessment-Tools/Online-tools/UDC/UDC/

http://universaldecimalclassification.blogspot.in/

http://www.loc.gov/marc/bibliographic/bd080.html

http://www.udcc.org/udcsummary/php/index.php

https://www.unido.org/library/help/udc.html

Unit 6: Concept of Call Number

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Objectives

After studying this unit, you will be able to:

- Explain the Concept of Call Number
- Discuss the Method for Writing Call Number
- Explain the Categories and Hierarchy of Call Number
- Describe the Concept of Class Number
- Explain the Concept of Book Number
- Describe the Concept of Collection Number

Notes

Introduction

Each book in the library has a unique call number. A call number is like an address: it tells us where the book is located in the library. It is written from top to bottom, left to right. The Curriculum Library uses the Dewey Decimal System to classify items. Dewey call numbers start with numbers and often include letters. Class numbers are the numbers we use to organise our books in subject order on the library shelves. The class number for each book appears on a label on its spine or, in the case of very thin books, its front cover.

6.1 Call Number

A call number is a unique code given to each item in the library. It identifies the subject and location of each book, journal, video, map, etc. McPherson Library arranges most items using the Library of Congress (LC) Classification system, which uses call numbers that start with letters and also include numbers. You can use LC Classification to see what call numbers are used for your topic.

Example: McPherson book, using LC: PR6057 R37 I45

Curriculum book, using Dewey: 823 R6784H33125

In any library classification system, each book has its own call number — a unique combination of letters and numbers shown on the spine or on the front of the book. Books are arranged on the shelves by the call number, which serves as an address for the book. In the Dewey Decimal system, call numbers begin with a three-digit figure. In the Library of Congress system, call numbers begin with one or two letters. Call numbers and library classification are intertwined because each field of study is represented by a call number.

Example: In the Library of Congress system, the letter L represents education, the letter Q represents science, N represents the arts, and so forth. Each book in that field receives a corresponding call number all books about education have a call number beginning with L and all books about science have a call number beginning with Q.

In the Dewey Decimal system, all books about education have call numbers in the 370's and all books about science have call numbers in the 500's. This is why books about the same discipline are together on the shelf. Call numbers get longer as the subject represented become more specific.

6.1.1 Beginning of Call Number

Call numbers can begin with one, two, or three letters.

- The first letter of a call number represents one of the 21 major divisions of the LC System. In the 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.

    1. 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).
    2. 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.

Notes

- 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).

6.1.2 Numbers after Letters

- The first set of numbers in a call number help to define a book's subject.
- "534.2" in the example teaches us more about the book's subject. The range QE 500-625 are books about "Dynamic and Structural Geology."
- Books with call numbers QE534.2 are specifically "Earthquakes, Seismology - General Works - 1970 to Present"
- One of the most frequently used number in call numbers is "1" which is often used for general periodicals in a given subject area.

Example: Q1.S3 is the call number for the journal Science.

- Journals are also given call numbers based on the specific subject.

Example: QE531.E32 is the call number for the journal Earthquake Spectra as QE531 is the class number for periodicals about "Earthquakes, Seismology".

6.1.3 Cutter Number

- The cutter number is a coded representation of the author or organization's name or the title of the work (also known as the "Main Entry" in library-lingo).
- Charles Ammi Cutter first developed cutter numbers using a two-number table. A three-number table was developed in 1969.
- In our above example, QE534.2.B64, the B64 is taken from the two-number table and represents the author's last name, Bruce A. Bolt. The book is Earthquakes.
- Some books have two Cutters; the first one is usually a further breakdown of the subject matter.

Example: QA 76.76 H94 M88 is a book located in the Mathematics section of the Q's.

QA 76 is about Computer Science.

The ".76" indicates Special Topics in Automation.

"H94" tells us that this is a book about HTML.

"M88" represents the last name of the first author listed last name, Musciano.

The book is HTML: The Definitive Guide

6.1.4 Shelving and Locating

Items are shelved by call numbers - in both alphabetical and numerical order. The letters at the beginning of the call number are alphabetical. The numbers immediately following are in basic numerical order, i.e. 5 then 6, 50 is after 49 and before 51, and 100 is after 99. Thus,

QD	1	QD	2	QD	3	QD	29	QD	30
A	3	A	31	Z	4	C	3	A	2

Notes

The cutter numbers (A3, A31, Z4, C3, and A2 in the above example) are sorted first by the letter and then by the number as a decimal. For QD 1 A5 think of it as being QD 1 A 0.5, for QD 1 A332 read QD 1 A 0.332. Therefore,

QD 1	QD 1	QD 1	QD 1	QD 1	QD 1	QD 1
A 3	A 31	A 311	A 4	A 41	A 415	A 42

Dates, volume and issue numbers, copy numbers, and other annotations are like an additional cutter number but are shelved by basic alphabetization (numbers alone come before letters):

Q 10	Q 10	Q 10	Q 10	Q 10	QD 1	QD 1	QD 1	QD 1
C 3	C 3	C 3	C 3	C 3	A 5	A 5	A 5	A 5
	1933	1990	1996 copy 1	1996 copy 2	Vol. 1	Vol. 2	Vol. 2 Plates	Vol. 2 Supplement

6.1.5 Basic Elements and Syntax of Call Numbers

Most call numbers are constructed as follows. The call number is displayed vertically as it would appear on the spine label of a book.

Table 6.1: Construction of Call Numbers

Call number	Part	Syntax Rule
BS	1	1 to 3 letters
4545	2	A number between 1 and 9999.99
G63	3	A **period** followed by a letter and 0 to 4 digits
L56	4	Optionally: a letter and 0 to 4 digits. **NO** period
2002	5	Optionally: a date
V. 2	6	Optionally: volume numbers

Source: http://library.dts.edu/Pages/RM/Helps/lc_call.shtml

Call number line breaks are significant. However, you might see parts one and two printed together on a single line since they both reflect a subject code. Examples of longer, more complex call numbers are available here.

The main sub-units of a call number are as follows:

Topic: Parts 1 and 2. The initial letters designate a broad topic. The numbers progressively narrow the topic. This is explained in more detail below.

Cutter: Parts 3 and 4. The topical portion of the call number is followed by a cutter number (named after Charles Cutter). The cutter number usually encodes the author (technically, the main entry). So within a given topic books are usually sorted by author. Cutter numbers can also be used to further subdivide a topic, and one call number can have two cutters (usually topical use followed by main entry use). This is not common.

Other parts: The call number may conclude with a publication year or volume number or copy number.

Self Assessment

Notes

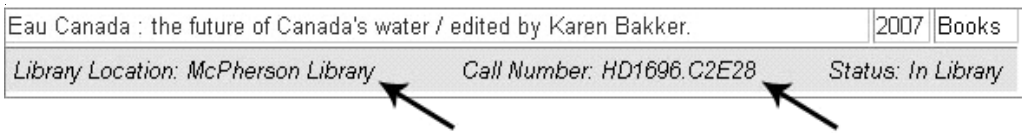
State whether the following statements are true or false:

1. A call number is a unique code given to each item in the library.
2. Call numbers and library classification are not intertwined.
3. Call numbers can begin with one, two, or three letters.

6.2 Method for Writing Call Number

Following are the methods of writing Call Number:

1. ***Get call numbers:*** Find the book you want in the Catalogue (Books & More) and get its call number (see eTutorials for search tips). Also check its location: McPherson, Reference, Music and Media, Priestly Law, etc. You can see this information in the main result list (shown below) or the catalogue record, which you see when you click the item's title.



2. ***Call number locations:*** Most books have their Library location:

   A-GN699 3M

   GN700-PR 3

   ML-MT 2

   PS-V 2

   M (Scores) Main

   Maps Main

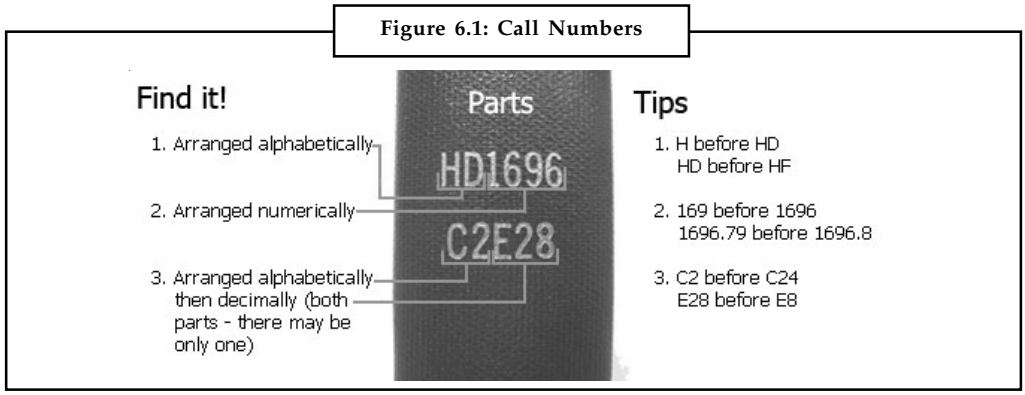
   Reference Main

   Z Lower

   For other locations and to see more precise call number breakdowns, see the floor maps. Maps are also posted around the library, or you can ask at the Library Help Desk.

3. ***Find the book on the shelf:*** Go to the indicated location then look for the call number. It will be one line in the catalogue but broken into at least two parts on the book, found on the book's spine. Hunt it down one part at a time.

Figure 6.1: Call Numbers



Source: http://library.uvic.ca/instruction/research/callnumbers.html

Notes

Some books also have a publication year at the end of their call numbers. These are arranged chronologically (2005 before 2008, etc.). Journals and books in series may also have volume numbers. These are arranged sequentially (v.1, v.2, v.3...). When you find a book, look at the ones shelved around it – because they're arranged by subject, they should be similar. You can do this virtually in the catalogue by clicking on the call number in the item record.

Self Assessment

Fill in the blanks:

4. Find the book you want in the Catalogue and get its ……number.
5. Go to the indicated ……..then look for the call number.
6. Some books also have a …….year at the end of their call numbers.

6.3 Categories and Hierarchy of Call Number

Books and scores in the Library are organized on the shelves according to Library of Congress (LC) Classification. LC Classification was originally designed to sort books at the Library of Congress and developed specifically with reference to the published literature in each subject area in that collection. Today it is used widely to organize collections in American academic and research libraries.

The basic outline of LC classification divides the entire field of knowledge into main classes that correspond largely to academic disciplines or areas of study. Main classes are denoted by single capital letters.

Table 6.2: Classes of LC

A	generalities	M	music
B	phil., psych., religion	N	fine arts
C	auxiliary sciences of history	P	philology and literature
D	history, general/old world	Q	science
E-F	history, America	R	medicine
G	geography, anthropology	S	agriculture
H	social sciences	T	technology
J	political science	U	military science
K	law	V	naval science
L	education	Z	bibliography, library science

Source: http://library.pba.edu/How%20to%20Understand%20Call%20Numbers%20and%20LC%20Classification.htm

The main classes are in turn divided into subclasses, designated by double or triple capital letters, representing branches of the major disciplines. The outline of the individual classes have been developed separately for each subject area—Class M, Music, for example, was first published in 1902 and was largely the work of Oscar G. Sonneck, Chief of the Division of Music at the Library of Congress. Nevertheless, the various classes are unified by a number of principles, most notably in the patterned structure of the notation, or call numbers, used to identify each class and the individual items within each class.

Notes

Elements of a Call Number: Each book or score in the Music Library is uniquely identified by a set of letters and numerals known as a call number. Call numbers generally consist of two or three elements: an LC class number followed by a tag known as the Cutter number (or book number) and often a date.

Call number = Class number + Cutter number(s) + (date)

The class number begins with one or more capital letters representing a branch of a subject classification in LC, the broad neighbourhood of items related by subject, discussed above. Within each main class or subclass, the integers 1-9999 (some with decimal extensions) are added to identify further subject subdivisions, defining the subject matter of the item more finely. The same combination of letter(s) and numerals is given to all individual items in the same subject class area.

After the first combination of letter(s) and numerals identifying the subject class another combination follows, known as the Cutter number. Named after Charles A. Cutter, who developed an alphanumeric code that forms the basis of the number, this second letter/number combination places an individual item in alphabetical order within its LC subject class (usually by the first letter of an author's last name, though it may sometimes also represent some other information about a work such as a further subject subdivision). In order to assure the Cutter number is unique a date often follows. Thus, the two parts of the call number serve two very different functions: the first part (class number) organizes knowledge by subject and the second part (Cutter number[s] + date) acts as a shelving device for arranging individual items within subject classes.

For Example: The following item from the PBA Library:

Arnold, Denis. Bach. (Oxford; New York: Oxford University Press, 1984).

It has been assigned the call number ML410.B1A96 1984, where ML410 is the LC class number and .B1 .A96 are the Cutter numbers.

call number =	ML410	class number +
	.B1 .A96	Cutter number(s) +
	1984	date

The meaning of the LC call number can be analysed part by part:

ML410 is the classification for composer biographies: ML represents Music Literature, a subclass of class M Music. The number 410, which is added to ML, represents Biography (by composer last name), itself a subdivision of the group of numbers representing History and Criticism under Music Literature.

The remainder of the notation, .B1 .A96 1984, is added to the class number in order to distinguish the specific item by Denis Arnold from all other items within the class of items at ML410. In this case, .B1 .A96 is a "double cutter," where .B1 may be seen to form part of the class number, or an extension of it, because it is a subdivision of Biography referring to books on J.S. Bach. Since all biographies of J.S. Bach are given the number ML410.B1, a second Cutter, .A96, is added to refer specifically to Arnold's biography of Bach. Together, the class number and the book number form a unique call number—an address that communicates information about the subject of an item and where a specific item may be found within (an alphabetical list of similar items in) its subject class.

In using a call number to locate a book on the shelf, consider each component of the call number in turn before moving on to the next segment. Each element of the call number is read is a

Notes

different manner—the class letters alphabetically, the class number as a whole number (with possible decimal extension), and the Cutter as a decimal. For example, the following call numbers are in the order they should appear on the shelves:

M	ML	ML	MT	MT	MT
1	881	881	1	76	76
.D15	.D2	.D2	.D15	.D29	.D4
1990	1988	1993		v.2	v.1

Implications: Browsing the Shelves. Since books on similar subjects are kept together by class number you can use the Library of Congress Classification, the first part of the call number, to browse the library shelves for information in your area of interest. Looking for books in the same or nearby class number can turn up related material in a particular subject. When looking for specific materials (a certain author or title, for example) you should use the PBA Library online catalogue to locate the exact call number of the item, and to check its status. However, if you would like to see what the Library has available in a particular subject area you may simply want to browse the shelves, either in the reference or the circulating collection.

Did u know? An online version of the summary tables for the three classes devoted to music – M Music, ML Literature on Music, and MT Musical Instruction and Study – is available from the UC Berkeley Music Library. An online subject index to the LC Music Class is available from Indiana University Music Library. If you have any questions interpreting a call number or locating an item or area please doesn't hesitate to ask at the main library desk.

Self Assessment

State whether the following statements are true or false:

7. LC Classification was originally designed to sort books at the Library of Congress.
8. The basic outline of LC classification does not divide the entire field of knowledge into main classes.
9. Call numbers generally consist of four or six elements.

6.4 Class Number

Class numbers in the Library of Congress Classification system are alpha-numeric. The letter portion includes one or more capital letters to indicate the general subject area. The number portion includes one or more Arabic numbers to subdivide the subject area.

Class M, for music, is subdivided into three main sections:

M notated music (scores)

ML literature of music (books about music, such as biographies, histories, discographies, thematic indexes, etc.)

MT musical instruction and study (method books, studies and exercises intended for pedagogical use (as opposed for concert use), treatises, books on music theory, music-appreciation textbooks (even those with extensive musical examples), etc.; includes scores and books).

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6.4.1 General Guidelines for Class M

Definitions of collection:

1. An item containing compositions by two or more composers.
2. An item containing works by one composer and selected from two or more of the composer's works.
3. An item containing one composer's works in more different forms or for a greater variety of performers than are provided for by any more specific class.

A collection is not to be confused with a set, which is a group of compositions published as a single work. This can be determined by an identifying number, such as an opus number or book number, etc., or a qualifying number that indicates the individuals parts are part of a larger work.

Further subclasses of collections are:

- ***Miscellaneous collection***: contains both original and arranged works
- ***General collection***: contains a greater variety of forms or types of works than may be provided for by any more specific neighbouring class.
- ***Special collection***: contains two or more works by one or more composers that are of the type indicated for separate works, e.g., class collections of string quartets as well as individual string quartets in M452-M452.4.

6.4.2 Class Numbers for Instrumental Music

Class numbers for instrumental music focus on number of instruments and are easy to remember. Music for two instruments is generally classed in M2XX; three instruments in M3XX, etc., until M9XX, where music for nine instruments is classed as well as for chamber music for ten or more instruments, one to a part.

Many class numbers are sub-arranged according to whether it is a collection (a miscellaneous collection of original and arranged works; a collection of original works; or a collection of arranged works) or a separate work that is original or a separate work that is arranged. When this sub-arrangement is used, a span of 5 class numbers are given, to be sub-arranged according to Table 6.3, Table of original works and arrangements.

Each number in the first row is the last digit in the first number of a span of numbers (i.e., M60-M64, M224-M228).

Table 6.3: Table of Original Works and Arrangements Include the First Digit 0

Type of Collection or Work	Assign the five numbers in the span as follows:					
Miscellaneous collections	0	1	2	3	4	5
Original compositions						
Collections	1	2	3	4	5	6
Separate works	2	3	4	5	6	7
Arrangements						
Collections	3	4	5	6	7	8
Separate works	4	5	6	7	8	9

Source: http://www.library.yale.edu/cataloging/music/classm.htm

Notes

For example, the span of numbers for viola and piano music is M224-M228. Take the last letter (4) of the first number in the range (224). Find "4" in the top row and following the numbers down from there:

- M224 for a collection (2 or more works) of original and arranged works for viola and piano
- M225 for a collection (2 or more works) of original works for viola and piano by one or more composers
- M226 for a single original work for viola and piano by one composer
- M227 for a collection (2 or more works) of arranged works for viola and piano by one or more composers
- M228 for a single arranged work for viola and piano by one composer (including excerpts from a single work by one composer)

The span of numbers for five wind instruments is M555-M559, which is also sub-arranged using Table 6.3 M555 for a collection (2 or more works) of original and arranged works for five wind instruments (woodwind and/or brass).

- M556 for a collection (2 or more works) of original works for five wind instruments (woodwind and/or brass)
- M557 for a single original work for 5 woodwind and brass instruments
- M557.2 for a single original work for viola and piano by one composer for 5 woodwind instruments
- M557.4 for a single original work for viola and piano by one composer for 5 brass instrument
- M558 for a collection (2 or more works) of arranged works for five wind instruments (woodwind and/or brass)
- M559 for a single arranged work for five wind instruments (woodwind and/or brass) (including excerpts from a single work by one composer).

The complication is that there are two subfamilies of wind instruments: woodwinds: flute, oboe, clarinet, recorder, saxophone, bassoon, etc. and brasses: horn, cornet, trumpet, trombone, baritone, euphonium, tuba, etc.

Notes That the class number M557 is further subdivided: M557 is for quintets for a combination of both woodwind and brass instruments; M557.2 for only woodwind quintets, and M557.4 for only brass quintets. (Adding to the confusion is the terminology "woodwind quintet," which is used for quintets with flute, oboe, clarinet, horn, and bassoon. These qualify as "wind" quintets for cataloguing purposes because they include a non-woodwind instrument; the horn is a brass instrument.) The rest of the span of numbers is not similarly subdivided. For example, M556 is used for collections of original works for either wind quintets, woodwind quintets, or brass quintets, not M556, M556.2, and M556.4. M559 is used for a single work arranged for either wind quintet, woodwind quintet, or brass quintet; M559.2 and M559.4 are not used.

6.4.3 Class Numbers for Orchestra, String Orchestra and Band Music

Notes

The class numbers for orchestra, string orchestra, and band music (not including works for solo instrument(s) and orchestra, string orchestra, or band) vary from those for chamber music. Many individual forms within these ranges are assigned separate numbers. The same class number is applied to both individual works and collections of works.

- M1000-M1075 for orchestra
- M1100-M1175 for string orchestra
- M1200-M1268 for band (the numbers in this range vary some from the individual numbers in M1000
- M1075 and M1100-M1175)
- M1001 = an individual symphony or a collection of symphonies for orchestra
- M1101 = an individual symphony or a collection of symphonies for string orchestra
- M1201 = an individual symphony or a collection of symphonies for band
- M1002 = an individual symphonic poem or a collection of symphonic poems for orchestra
- M1102 = an individual symphonic poem or a collection of symphonic poems for string orchestra
- M1202 = an individual symphonic poem or a collection of symphonic poems for band
- M1003 = an individual suite, variations or a collection of suites, variations for orchestra
- M1103 = an individual suite, variations or a collection of suites, variations for string orchestra
- M1203 = an individual suite, variations or a collection of suites, variations for band
- M1004 = an individual overture of a collection of overtures for orchestra
- M1104 = an individual overture of a collection of overtures for string orchestra
- M1204 = an individual overture of a collection of overtures for band
- M1042 = an individual concerto or a collection of concertos for orchestra
- M1142 = an individual concerto or a collection of concertos for string orchestra
- M1242 = an individual concerto or a collection of concertos for band

Works *not* in one of these forms fall under the catch-all term "pieces," although even these have numbers for individual forms:

- M1045 = an individual piece or a collection of pieces for orchestra
- M1145 = an individual piece or a collection of pieces for string orchestra
- M1245 = an individual piece or a collection of pieces for band
- M1046 = an individual march or a collection of marches for orchestra
- M1146 = an individual march or a collection of marches for string orchestra
- M1247 = an individual march or a collection of marches for band
- M1047 = a collection of dances for orchestra
- M1147 = a collection of dances for string orchestra

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- M1247.9 = a collection of dances for band

The class numbers for dances are further subdivided according to two-rhythm (polka, etc.) and three-rhythm (waltz, etc.):

- M1048 = an individual two-rhythm dance or a collection of two-rhythm dances for orchestra
- M1148 = an individual two-rhythm dance or a collection of two-rhythm dances for string orchestra
- M1248 = an individual two-rhythm dance or a collection of two-rhythm dances for band
- M1049 = an individual three-rhythm dance or a collection of three-rhythm dances for orchestra
- M1149 = an individual three-rhythm dance or a collection of three-rhythm dances for string orchestra
- M1249 = an individual three-rhythm dance or a collection of three-rhythm dances for band

6.4.4 Classifying Works with Keyboard

- ***Piano, etc.:*** "Unless specific classes are otherwise available, the term is meant to include harpsichord, clavichord, virginal, and similar keyboard instruments whose strings are plucked or struck."
- ***Continuo:*** "Class works with continuo parts as if the continuo were played by one, not two, performers, and, in general, as if the chordal portion of the continuo part were for piano (harpsichord, etc.)"
- ***Studies and exercises:*** Pedagogical works (with or without accompaniment): class in MT studies and exercises
- ***Concert works:*** class concert works titled "studies" by medium of performance in class M.

6.4.5 Class Numbers for Vocal Music

Class numbers for vocal music tend to emphasis the accompaniment and are less easy to remember. Secular and sacred works of the same type and for the same medium of performance are classed in different class numbers. For example, a secular song for voice and orchestra is classed in M1613 and a sacred song for voice and orchestra in M2103. There is no pattern like M1613/M2113 or M1619/M2119 in the class schedule, making it difficult to memorize the class numbers. Some limitations of Class M are:

The schedule is inconsistent in the level of detail.

- Many classes are subdivided in detail. For example, the class numbers for music organ (M6-M14), piano (M20-M39), violin and piano (M217-M223), violoncello and piano (M229-M236), and orchestra (M1000/M1075) are further subdivided by type of composition (suite, sonata, symphony, etc.)
- Other class numbers are so general that a wide variety of works are classed in it. For example, see the class numbers M298 and 298.5 and M385, M485, M685, etc. and M386, M486, M586, etc. Most works that include percussion are classed in one of these class numbers, because percussion is not covered elsewhere in the schedule.
- Still other class numbers are in-between highly detailed and not detailed enough. For example, all music for two wind instruments, original or arranged, are classed in just two class numbers: M288 (collections) and M289 (separate works).

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The entire schedule is oriented toward western art music. It is difficult to use Class M to classify sound recordings. (Some libraries use a variation of LC Class M; other libraries shelve recordings by accession number or manufacturer number. One system used by many public libraries is the ANSCR classification system for sound recordings, which includes over fifty major categories into which sound recordings may be organized.)

Self Assessment

Fill in the blanks:

10. Class numbers in the Library of Congress Classification system are……..
11. ……..collection contains a greater variety of forms or types of works than may be provided for by any more specific neighbouring class.
12. Each number in the …….row is the last digit in the first number of a span of numbers.

6.5 Book Number

Book numbers (also called item numbers) combine with collection numbers and class numbers to form call numbers. Book numbers are a way of organizing and ordering books about the same subject that share the same class number. They allocate books on the shelf in a helpful manner and provide unique call numbers for every item in the collection. Book numbers are a minor but important part of classification and cataloguing. Brief surveys are made of their history, Cutter and Cutter-Sanborn tables, alphabetical and chronological orderings, Ranganathan's faceted book numbers, and Library of Congress call numbers. The future of book numbers is surveyed.

Book numbers are parts of call numbers, together with collection numbers and class numbers. Book numbers come at the end, and arrange books about the same subject so that they can be given useful order on the shelf and a unique location in the collection. The collection number, if used, indicates a major grouping within a library or library system, e.g. REF for reference or J for the juvenile collection. The class number of a book tells what it is about, but many books can be about the same thing and share the same class number. Book numbers are different for each book having the same class number and will make the full call number completely individual. Just as different classification schemes lead to different class numbers, so do the different book number systems lead to incompatible book numbers? The library of the Faculty of Information Studies at the University of Toronto (at which copies of all the books in the bibliography can be found) uses the Dewey Decimal Classification (DDC). Their policy for making book numbers is to make an author number from the main entry, then add a title mark equal to the first letter of the title (personal conversation with Joseph Cox, 1 February 2003). For example, Satija and Comaromi (1992) have the call number025.428 S2523B MC. MC is the collection number, indicating in which of the many campus libraries it can be found. (The name has since changed, which is confusing.)025.428 is the class number, indicating the subject is shelf-listing. There are many books in the library about shelf-listing. How to tell them apart? With a book number: for this book, S2523B. S2523 is from Satija, and B is from Book Numbers. A Library of Congress (LC) example is a copy of David Copperfield by Charles Dickens, found in the main University of Toronto library at PR 4558.A1 1947 ROBA 1. PR 4558 is class number, and stands for David Copperfield, while A1 indicates that copies are arranged in chronological order and 1947 is the year of this particular edition. The library has appended its own collection mark (ROBA) and a copy number. S. R. Ranganathan devised his own, very detailed, faceted book number system, and in Colon Classification (1964), he helpfully includes a complete call number on the copyright

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page: 2:51N3 qN60. 2:51N3 is the class number (2 for Library Science, 51 for Generalia Bibliography/Technical Treatment/Classification, N3 for Colon Classification), and qN60 is the book number (q to show the form is "Code," N for 1900-1999, 60 to make the year 1960).

(Footnote 1: "Numbers" in this sense are also called "marks:" book marks, class marks, collection marks, etc. Book numbers are sometimes called item numbers, to cover other forms of material, but here the focus will be on books and shelves.)

(Footnote 2: The University of Toronto's library catalogues can be searched a thttp://www.library.utoronto.ca/. All but two use Library of Congress classification.)

(Footnote 3: "Author" will be used in the rest of the essay for "main entry," because that is how users think, and because the idea of "main entry" did not exist when book number schemes were first created.)

"Book number" means slightly different things to different people. Comaromi (1981) says a book number is a "combination of author numbers, Cutter numbers, author letters, and any other shelf-listing device." Chan (1994) defines item number as "that part of a call number which designates a specific individual item within its class." Sartap and Comaromi (1992) say, "Class numbers alone produce groupings whose size depends upon the depth of the library classification and the closeness with which the classification used is applied. To organize or provide order within a class grouping, documents are given a further notation called a book number." Ranganathan (1964) said the book number "of a book is a symbol used to fix position relatively to the other books having the same Ultimate Class. The Book Number of a book individualises it among the books sharing the same class number."

Book numbers do not usually reflect the subject of a book, but instead are based on external attributes such as author name or year of publication. Satija and Comaromi (1992) say that book numbers "may be based on one or a combination of some of the attributes of the document, such as author, title, language, year or place of publication, physical size, and physical make-up." (Book numbers may sometimes reflect a subject-related aspect of a book, such as when it is a volume of criticism. Ranganathan used a g at end of the call number for that, and that the Library of Congress system uses its own indicators in some cases. This brings together on the shelf books and their criticism, a very helpful collocation.) Ranganathan (1964) said the book number "may consist of one or more the following successive Facets: Language Number; Form Number; Year Number; Accession Part of Book Number; Volume Number; Supplement Number; Copy Number; Criticism Number; and Accession Part of Criticism Number."

In general, book number = author number + title (or work) mark + edition mark + date of publication + volume number + copy number + anything else library policy dictates. Call number = class number + book number, with the collection number at the start or end.

Book numbers give a unique shelf location to each book in a collection. They bring a defined and consistent order to all books on a given topic, an order that may apply more generally to all subject groupings in the library. Depending on the size of the collection and the depth of classification, it may happen that very rarely do two books collide and share a class number, so book numbers are not thought necessary. Satija and Agriwal (1990) forcefully object to such imprecision:

"For a rigorously fine arrangement of books, book numbers are indispensable. Yet their value is debated if not totally doubted. A sizeable number of librarians do not value them highly in shelf arrangement; no wonder then if these are meted out a step-motherly treatment in some libraries. Literature on them is thin and rare. Even those who use book numbers think of them as merely an adjunct—a tool of the perfectionist only. Yet their value in impeccable shelf classification cannot be underestimated. In close access libraries these have comparatively more value in pinpointing the location of books.

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And for collocation of host and associated books, and to bring together a book and its sequels, the book numbers are quite indispensable. Their utility and importance becomes more pronounced libraries using broad classification such as Rider's International Classification or even the DDC. It is not to suggest that in use with depth classification systems these are less desired. Whatever be the size of the library and the kind of classification used, book numbers add [the] last touch to the ultimate shelf arrangement."

In 1937 Bertha Barden listed six important reasons for using book numbers (though bar codes have made numbers four and six less relevant now):

Book numbers in addition to class numbers are needed:

- To arrange books in order on the shelves.
- To provide a brief and accurate call number for each book.
- To locate a particular book on the shelf.
- To provide a symbol for charging books to borrowers.
- To facilitate the return of books to the shelves.
- To assist in quick identification of a book when inventories are taken.

Broad classifications will make many books share the same class number. Deep classifications will mean fewer do. Some libraries, such as in elementary schools, may use very broad classifications, perhaps Dewey to the tens. What happens when books collide? Ordering the books alphabetically by author's last name (the most basic of book numbers, though perhaps an invisible one if the name is only on the book cover and not on the spine label) seems obvious. For some collections this is enough.

Caution It will not be enough in large or specialized libraries or any library where precision and detail are valued, in order that the needs of both the librarian who organizes material, and the user who searches for it, are best served.

6.5.1 Chronological Ordering

All of the book number systems seen so far (except for Dewey's first attempt, using accession numbers) arrange books within a topic by author's last name. This is an obvious and sensible method of ordering. It will bring together all the books by one writer on the same topic, a helpful arrangement. However, the chronological ordering will be completely disrupted. Books on evolution by Charles Darwin will be followed by those by Richard Dawkins (metaphorically apt, since he is an important Darwinist). What of the 150 years between them? There is little room for names between Darwin and Dawkins, but they span the entire history of thought on evolution. A chronological ordering would put Darwin first (or near it), and moving across the shelf would show how the science progressed up to the latest work in the field.

Satija and Comaromi outline the arguments for and against chronological book numbers. In their favour, they are simple; there is no confusion when the same writer gets different Cutter numbers in different classes; when a book has multiple authors, one is not favoured over the others; the development of a subject can be they are an aid to weeding out of date books; there are no problems making Cutter numbers for non-European names.

Against them, they note there is no well-developed system for using chronological numbers; that the arrangement is more helpful for organization than retrieval; that it separates different

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editions of the same book; and most importantly, that people remember names, not years. Chronological book numbers are as old as author numbers. W.S. Biscoe, a disciple of Dewey, devised a system that the great man admired. James Duff Brown and Fremont A. Rider created their own systems (Satija and Comaromi 1992).

6.5.2 Colon Classification Book Numbers

S.R. Ranganathan's faceted Colon Classification (CC) is extremely detailed, precise, and informative, as is the book number system he made to go with it. In his Colon Classification he defined these terms:

- 03 The Book Number of a book is a symbol used to fix position relatively to the other books having the same Ultimate Class.
- 030 The Book Number of a book individualises it among the books sharing the same class number.
- 031 The Book Number of a book is the translation of the names of certain of its specified features into the artificial language of ordinal numbers, specified and elaborated in the rest of this chapter.
- 03012 The Book Number consists of an intelligible concatenation of one or more of the following symbols: the twenty-four Roman Capitals got by omitting I and O; the twenty-three Roman smalls got by omitting i, l, and o; the punctuation marks dot, hyphen, semicolon and colon; and the ten Indo-Arabic numerals.
- 0302 The Book Number may consist of one or more of the following successive Facets: Language Number; Form Number; Year Number; Accession Part of Book Number; Volume Number; Supplement Number; Copy Number; Criticism Number; and Accession Part of Criticism Number.

He also defined this formula for book numbers:

[L][F][Y][A].[V]-[S];[C]:Cr[Cr#]

[L] = language number (can be left out)

[F] = form number (can be left out)

[Y] = year (the most important; comes from a table: e.g. N=1900-1999, P=2000-2099)

[A] = accession part of year number (if more than one book from the same year)

[V] = volume number

[S] = supplement number

[C] = copy number

Cr = g indicates a volume of criticism

[Cr #] = accession part of criticism indicator

This is the most orderly book number system discussed. The language and form facets can be left out if they are the default (e.g., English books), leaving the year of publication, which Ranganathan felt was the most important facet, first. He believed strongly in chronological ordering.

In many of the schemes of Book Numbers the name of the author is used to individualise a book. In the Colon Classification the Year of Publication and some other characteristics also in some cases, are used for the purpose. For except in Literature and in the case of the classics in any subject, where the author is made into a class in the Colon Classification, it is felt that the Year

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of Publication will be a more relevant and helpful characteristic than the name of the author for individualising a book.

Caution If we remember that the library is a growing organism, it is more often the year of publication that determines the value of a book in all cases except the ones excluded above.

The majority of readers are interested in the latest books in an ultimate class, while antiquarians may be interested in the oldest books. Most pedestrian works cease to have value to an ordinary reader at the expiry of ten to twenty years after publication. Any work with long-persisting value is likely to come out again in a new edition (Ranganathan 1964).

Example: A 1987 book written in Urdu about Indian history would have call number V, 44 168 M7 where V, 44 is the class number and 168 M7 is the book number (168showing it is written in Urdu and M7 standing for 1987) (Satija and Agriwal 1990). A more complicated book number is 15w1K8.1g which indicates a book of criticism of volume 1 of a 1968 book of Sanskrit verse: 15 for Sanskrit (language), w1 for form (verse), K8 for year (1968), .1 for volume 1, and g for criticism.

As with all chronological systems, one writer's books on a topic will not be collocated. Further, different editions of the same book will be separated. A book published in 1968 with a second edition in 1975 would have copies filed at K8 and L5, with many books in between. Ranganathan said that if editions were to be kept together, it could be done by treating later editions as copies of the first. In this example, the first edition would be K8 and the second K8; L5.

This brings together different editions of the same book, but at the same time destroys the chronological ordering that shows the progression of knowledge. Ranganathan knew that not everyone would like complete chronological ordering, but he felt its advantages outweighed its faults. He liked the ordering, and ways of turning numbers into shorter coded forms, so much so that in Colon Classification (1964) he includes two tables for doing this. One is especially for book numbers and turns four-number calendar years into three-character letter and number combinations.

Task Do you think that book numbers are different for each book having the same class number and will make the full call number completely individual? If yes give reasons.

Self Assessment

State whether the following statements are true or false:

13. Book numbers are a way of organizing and ordering books about the same subject that share the same class number.
14. Book numbers are not the part of call numbers.
15. Book numbers usually reflect the subject of a book.

6.6 Collection Number

In libraries and museums and other archives, a collection number or catalogue number is a unique, usually sequential, number given to each new item acquired, as it is catalogued. If an

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item is removed from the collection, its number is usually not reused for new items. In libraries, this numbering system is usually in addition to the library classification number (or alphanumeric code) and to the ISBN or International Standard Book Number assigned by publishers. Collection numbers are also used by arboreta, botanic gardens, etc., to identify plants.

Typically, a collection number consists of the year acquired, sometimes the full date (as at the British Museum), and a sequential number separated by a period. In addition, departments or art classifications within the collection or museum may reserve sections of numbers.

Example: Objects identified by the numbers 11.000 through 11.999 may indicate objects obtained by the museum in 1911; the first 300 numbers might be used to indicate American art, while the next fifty (11.301-350) might be used for African art.

In older institutions, simpler numbering systems are sometimes maintained alongside, or incorporated within, newer systems. Where the objects are unique, institutions normally need to retain the original number in some form as it will have been used in old references that are still of use in scholarship. In particular, collections of manuscripts use the prefix "MS", and many well-known manuscripts are known by their old MS numbers, often incorporating a prefix for a particular collection within a library.

Here are a number of special collections in the Main Library. These collections are special locations within the Research Collections stacks. The Special Collections Code is in the same location where you would find the Library Code. For example, the Folklore is a Special Collection. Below are some examples of other special collections:

Figure 6.2: Special Collections

Source: http://www.libraries.iub.edu/index.php?pageId=4662

A few of the more frequently accessed collections in the library are:

- ***Reference Collection, on the Main Floor of the library:*** This is where you can find materials such as encyclopaedias, dictionaries, handbooks, etc.
- ***Reserves Collection, on the Main Floor:*** This is where you can find any course readings that your instructors have placed on Traditional Library Reserves
- ***Stacks, on the Middle Floor and Ground Floor:*** This is where you can find our largest collection, housing fiction and non-fiction books that offer in-depth exploration of topics.
- ***Oversize Collection, on the Ground Floor:*** This is where you can find large sized books, often containing large art images, maps, musical scores, etc.

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- ***Periodicals Collections, on the Main Floor (for Current Periodicals) or the Ground Floor (for Bound Periodicals on the compact shelves):*** This is where you can find the print versions of our magazines and scholarly journals. We also subscribe to many periodicals in electronic form through our databases.
- ***Media Collection, on the Main Floor:*** This is where you can find video tapes and DVDs, audio books, and music CDs.
- ***Microforms Collection, on the Main Floor:*** This is where you will find microform versions (microfilm, microfiche, etc.) of items like older periodicals, government publications, or ERIC Documents.
- ***Government Documents Collection, on the Ground Floor:*** This is where you can find the print documents issued by various government offices, including department reports, transcripts for congressional committee hearings, consumer information, etc.
- ***Special Collections, at the Check Out counter on the Main Floor:*** This is where you can request older or special documents that must be kept protected for various reasons.

Self Assessment

Fill in the blanks:

16. An …….number consists of the year acquired.
17. Collections of manuscripts use the prefix……...
18. In older institutions, simpler numbering systems are sometimes maintained alongside, or incorporated within …….systems.

Case Study

North West Libraries Interlending Partnership's (NWLIP) Use of SUNCAT

NWLIP is a service provided by Lancashire Library Service in association with the Society of Chief Librarians (SCL) North West. The Partnership provides Inter Library Loan (ILL) support services to libraries in the north west of England.

NWLIP provides an email based location search service for academic partner libraries. It also provides a forum for partnership networking, exchange of good practice and a programme of training and events.

Scale and Impact of Service

NWLIP currently has 31 partners, 11 academic partner libraries and 20 public library authorities based in the North West of England.

The location service is available to NWLIP Higher Education and Further Education partners. The service handles around 50-60 requests per month, with an increasing number of requests for journal articles.

The service saves NWLIP subscribers a great deal of time as the process of locating items can be quite labour intensive. Anomalies related to title or other details provided by the end-user arise frequently, but an expert and comprehensive search service ensures more ILL requests are fulfilled.

Contd....

Notes

NWLIP also saves subscribers money by identifying partnership locations first; reciprocal lending between these partners means that subscribers only have to pay for requests fulfilled by libraries outside the partnership.

Use of SUNCAT

"For journal articles…SUNCAT is the first port of call."

The NWLIP location service receives email requests from its subscribers, including details such as title, author, year, page numbers, etc. Some subscribers conduct a quick initial search and only submit requests where they cannot easily locate an item, while other subscribers automatically pass on all of their ILL requests.

A growing number of requests are for journal articles and for these the first port of call is SUNCAT. The requests often only contain truncated journal title details so the SUNCAT cross referencing is invaluable. If the journal cannot be found on SUNCAT, it usually means that there is a problem or error with the request details. In such cases an Internet search can help to clarify the details, at which point the SUNCAT search can be repeated with the updated information. On some occasions a quick search is conducted on Copac, while this rarely produces an alternative title to that on SUNCAT, it does sometimes produce additional locations. Although, not all the NWLIP libraries are included in SUNCAT it's not usual to check these separately as the item can generally be found among the journal holdings available on SUNCAT.

Once the libraries holding the particular year, volume and issue are located on SUNCAT the details are sent back to the subscriber along with the relevant British Library codes. Other NWLIP partnership library locations are highlighted first due to the reciprocal interlending agreement; however, all available locations are listed ensuring that the search service is fully comprehensive.

Key Functionality of SUNCAT for NWLIP

"It's really useful for lots of things; it will translate the details supplied by the borrower so that when I enter citation details into SUNCAT, even if I have no knowledge of that journal, SUNCAT will provide cross references, which is excellent."

"The results look very clear."

Firstly, the bibliographic details are important in order to verify details, spellings, dates, titles etc. as provided in the ILL requests. Secondly, the holdings information is also vital to find out which libraries hold the journals and the particular years required. The cross references are particularly useful for finding out if and when journals have changed title or if the request only includes truncated journal title details.

Value of SUNCAT for NWLIP

1. ***Improves Supply Rate to Borrowers:*** "For a journal request I'll rely primarily on SUNCAT."

   "Generally speaking if the journal exists and the details are correct there is normally something on SUNCAT. I don't think I very often come across anything I haven't been able to trace. If I can't find any record at all on SUNCAT that suggests to me there's something wrong with the details the borrower has given."

   Using SUNCAT has an obvious impact on the supply rates to borrowers. Journal article requests have increased, perhaps due to users finding more information on the Internet, so SUNCAT helps NWLIP libraries to supply to their end users.

Contd....

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The success rate searching on SUNCAT is very good; if a journal exists it is usual to find some information on SUNCAT.

2. ***Provides Cost Effective Solution for Locating Journal Articles:*** Without SUNCAT, resources would be greatly reduced with only limited resources such as Copac, and Internet searches available to check if the item is available to buy or download for free. It would be necessary to investigate creating a centralised catalogue for the North West but obviously there would be a considerable cost involved.

   "[Not having SUNCAT] would have a big impact. My resources would be cut down… we may not be able to provide the location search service to our users, as it may not be cost effective to provide this service without a centralised catalogue."

3. ***Provides Bibliographic Information for the Verification of Request Details:*** "It's not just the holdings, but the bib details, which are really valuable."

What else could SUNCAT do?

Ideally it would be useful to be able to sort results into regions or to just have a view of North West libraries holdings with the option to expand out to a full search if required.

It would also be useful to be able to sort results by year of holdings as this is key information for ILL requests.

Separating e-journals from print journals would be helpful as hard copy is often the first choice for ILL. Many NWLIP subscribers shy away from electronic resources due to uncertainty regarding different licence restrictions and many libraries have a blanket policy of not supplying electronic format.

The inclusion of the British Library codes beside the library names in the holdings display would help more than anything. Each UK library has an identifying code which is used by a number of ILL systems, so having this detail on SUNCAT would save time checking codes on the British Library website.

Finally, it would be preferable to have fewer duplicate records for the same title to reduce the time required to check several records.

Questions

1. What are the benefits of SUNCAT to NWLIP?
2. What do you infer from the case?

Source: http://www.suncat.ac.uk/support/casestudies/nwlip/

6.7 Summary

- A call number is a unique code given to each item in the library.
- In any library classification system, each book has its own call number — a unique combination of letters and numbers shown on the spine or on the front of the book.
- Items are shelved by call numbers – in both alphabetical and numerical order.
- LC Classification was originally designed to sort books at the Library of Congress and developed specifically with reference to the published literature in each subject area in that collection.
- In using a call number to locate a book on the shelf, consider each component of the call number in turn before moving on to the next segment.

Notes

- Class numbers in the Library of Congress Classification system are alpha-numeric.
- Book numbers are a way of organizing and ordering books about the same subject that share the same class number.
- Book numbers are parts of call numbers, together with collection numbers and class numbers.
- "Book number" means slightly different things to different people.
- A collection number consists of the year acquired, sometimes the full date (as at the British Museum), and a sequential number separated by a period. In addition, departments or art classifications within the collection or museum may reserve sections of numbers.

6.8 Keywords

Book Numbers: Book numbers are a way of organizing and ordering books about the same subject that share the same class number.

Call Number: A call number is a unique code given to each item in the library and identifies the subject and location of each book, journal, video, map, etc.

Collection Number: A collection number or catalogue number is a unique, usually sequential, number given to each new item acquired, as it is catalogued.

Cutter Number: The cutter number is a coded representation of the author or organization's name or the title of the work (also known as the "Main Entry" in library-lingo).

Dewey Decimal System: The Dewey Decimal Classification is a system of library classification made up of ten classes, each divided into ten divisions, each having ten sections.

General Collection: It contains a greater variety of forms or types of works than may be provided for by any more specific neighbouring class.

Manuscripts: A manuscript is any document written by hand, as opposed to being printed or reproduced in some other way.

Publication: The preparation and issuing of a book, journal, piece of music, or other work for public sale.

Special Collection: It contains two or more works by one or more composers that are of the type indicated for separate works.

6.9 Review Questions

1. Define call number.
2. Discuss the beginning of Call Number.
3. What is Cutter number?
4. Highlight the basic elements and syntax of Call Numbers.
5. Explain the methods of writing Call Number.
6. Describe the general guidelines for Class M.
7. Define Book numbers.
8. How will you make equation of book number?

9. What are the six important reasons for using book numbers?
10. Highlight Colon Classification Book Numbers.
11. What do you understand by Collection Number?

Notes

Answers: Self Assessment

1.	True	2.	False
3.	True	4.	Call
5.	Location	6.	Publication
7.	True	8.	False
9.	False	10.	Alpha-numeric
11.	General	12.	First
13.	True	14.	False
15.	False	16.	Collection
17.	MS	18.	Newer

6.10 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://geography.about.com/library/congress/blhowto.htm

http://library.pba.edu/How%20to%20Understand%20Call%20Numbers%20and%20LC%20Classification.htm

http://library.uvic.ca/instruction/research/callnumbers.html

http://www.library.yale.edu/cataloging/music/classm.htm

http://www.miskatonic.org/library/book-numbers.html

Notes

Unit 7: Library Classification Canons and Principles

CONTENTS

Objectives

After studying this unit, you will be able to:

- Discuss the Purpose and Process of Library Classification
- Discuss the Types of Classification

Notes

- Explain the Work of Classification in Three Planes
- Describe the Canons/Principles of Ranganathan
- Explain the Recent Developments in Classification
- Discuss the New Trends in Classification
- Describe the International Research Groups for Library Classification

Introduction

Each book in the library has a unique call number. A call number is like an address: it tells us where the book is located in the library. It is written from top to bottom, left to right. The purpose of this Unit is to enable the students to comprehend basic expressions. Even today, scientists during their research work find new plants, insects and micro-organisms. The first true faceted system was the Colon classification of S.R. Ranganathan. In the age of explosion of information science, the task of fulfilling the reader's expectations totally depend upon the skilful librarian.

7.1 Purpose of Library Classification

In simple words classification is the grouping or categorization of things on the basis of similar characteristics. Just as in biological sciences Carolous Linnaeu and others classified animal and plant kingdom into class, order, phylum, family, genera and species and gave nomenclature to animal and plant species. They identify and classify them on the basis of some specific anatomical and morphological characteristics, bionomics, habits etc. and gave them scientific names. In the same manner library classification for documents is done. The basic purpose of library classifications is as follows:

1. ***Helpful Sequence:*** The basic purpose of any library classification is service oriented. Library should arrange the document in a method most convent to the users and to the library staff.

Notes The document should be arrange in classes and based on the mutual relation between them. In other word related documents could be grouped in close proximately.

2. ***Correct Replacement:*** Document after being taken out from the shelves by the users or by the library staff should be replacing in their proper places. It is essential that library classification should enable the correct replacement of document after this happened return from use.
3. ***Mechanized Arrangement:*** It is decided that a particular arrangement is suitable for the library materials. Ordinarily it should not be changed by the help of new document with the help of allocating notation, classification enable us to mechanize the arrangement.
4. ***Addition of new Document:*** A library should acquire new document from time to time. Therefore library classification should help in finding the most helpful place among the existing collection of the library.
5. ***Withdraw the document from Stock:*** In case the need arise to withdraw a document from stock for some reason. Library classification should facilitate such a withdrawn.

Notes

6. ***Book Display:*** In wider sense the term book is display is use to indicate that the collection in open access library is well presented and guided. Library classification should be helpful in the organization of book display.
7. ***Other purpose:***
   - ❖ Compilation of bibliography, catalogue, union-catalogue and so on.
   - ❖ Classification of information and reference queries.
   - ❖ Filing of non-book materials such as correspondence, films and so on.
   - ❖ Assist the cataloguer in determining subject heading.

Self Assessment

State whether the following statements are true or false:

1. Library should arrange the document in a method most convent to the users and to the library staff.
2. Word related documents could not be grouped in close proximately.

7.2 Process of Classification

Activities which are performed for classifying a book are as follows:

1. The very first phase in the book classification begins with identifying the particular subject of a book which is originated from the book title as well as sub-title. If the book title is very general then subject content of the book is identified either by going through the preface or the table of contents.
2. When the specific subject of a book is identified then specific number is allotted to the book of a particular scheme by consulting schedules. Therefore, class number is given to a specific book.
3. The classifier must allot subject headings once the book. According to different lists of subject headings, the subject headings can be allotted.

Example: Ranganathan chain procedure, Library of Congress list of subject headings, PRECIS and so on.

Self Assessment

Fill in the blanks:

3. The …….must allot subject headings once the book.
4. When the specific subject of a book is identified then specific number is allotted to the book of a particular scheme by…….

7.3 Types of Classification

There are many standard systems of library classification in use, and many more have been proposed over the years. However in general, classification systems can be divided into three types depending on how they are used:

- Universal schemes covering all subjects. Examples include Dewey Decimal Classification, Universal Decimal Classification and Library of Congress Classification.

Notes

- Specific classification schemes for particular subjects or types of materials. Examples include Icon class, British Catalogue of Music Classification, and Dickinson classification, or the NLM Classification for medicine.
- National schemes specially created for certain countries. An example is the Swedish library classification system, SAB (Sveriges Allmänna Biblioteksförening).

In terms of functionality, classification systems are often described as:

- ***Enumerative:*** Subject headings are listed alphabetically, with numbers assigned to each heading in alphabetical order.
- ***Hierarchical:*** Subjects are divided hierarchically, from most general to most specific.
- ***Faceted or analytico-synthetic:*** Subjects are divided into mutually exclusive orthogonal facets.

There are few completely enumerative systems or faceted systems; most systems are a blend but favouring one type or the other.

Did u know? The most common classification systems, LCC and DDC, are essentially enumerative, though with some hierarchical and faceted elements (more so for DDC), especially at the broadest and most general level.

7.3.1 Universal Classification Systems Used in the English-speaking World

- Dewey Decimal Classification (DDC)
- Library of Congress Classification (LCC)
- Colon classification (CC)

The above systems are the most common in the English-speaking world.

- ***BISAC Subject Headings:*** The publishing industry standard for classification that is being adopted by some libraries.
- ***Harvard-Yenching Classification:*** An English classification system for Chinese language materials.

7.3.2 Universal Classification Systems that Rely on Synthesis (Faceted Systems)

- Bliss bibliographic classification
- Colon classification
- Cutter Expansive Classification
- Universal Decimal Classification

Newer classification systems tend to use the principle of synthesis (combining codes from different lists to represent the different attributes of a work) heavily, which is comparatively lacking in LC or DDC.

Notes

Self Assessment

State whether the following statements are true or false:

5. There is only one standard systems of library classification.
6. Enumerative subject headings are listed alphabetically.

7.4 Work of Classification in Three Planes

Ranganathan suggested that information is created in three steps (each in a separate location or plane). An initial idea occurs in someone's mind (the idea plane); then it is described or discussed in words (the verbal plane); and finally it is written down (the notation plane).

1. ***Idea Plane:*** Ranganathan and Gopinath (1967) said, "The destiny of any idea created by one mind is the minds of the others. The others too need the ideas to be communicated to them."

   There are lots of approaches to the concept of ideas (the idea of ideas?). Neurolinguists might refer to an excited state of neurons and axons; philosophers might refer to a mental image; mathematicians might refer to a perceived pattern; and psychologists might refer to a particular mental state. For the moment, because it is the most general definition and is understood by the largest audience, let us select the philosophers' approach. (If you know me, you know how painful writing that last sentence was.)

   But even the philosophers' stance isn't enough. The idea must live within a mental environment comprising the person's other ideas and attitudes and feelings. In other words, ideas are part of a system which we will call a mental state. The idea is the black box and the thinker's mind is the environment which modifies the idea.

2. ***Verbal Plane:*** Again, from the Prolegomena to Library Classification (Ranganathan and Gopinath, 1967): "Along with the capacity to create ideas, came also the capacity to develop an articulate language as medium for communication."

   The work of the language plane is that of organization, formalization, and translation which might not be necessary if we could communicate through a Vulcan mind meld. On the other hand, our ideas are often rather amorphous; if we sent this column directly (my mind to your mind) it would probably be seriously confused.

3. ***Notational Plane:*** Finally, about notation, Ranganathan and Gopinath (1967) said, "Words are often replaced by symbols pregnant with precise meaning. Ordinal numbers are often used as helpful symbols. A distinctive contribution of the discipline of classification, as found and as being cultivated in the field of Library Science, is the Notational Plane. Uniqueness of the idea represented by an ordinal number and the total absence of homonyms and synonyms are the distinctive features of the notational plane, when compared with the verbal plane."

Work on the notation plane is a form of coding. A DDC number represents specific categorical language defined in authorized manuals. The same is true of an LC mark (except that it is alphanumeric). Computers represent work on the language plane with ones and zeros (or their electrical analogues). An older example of work on the notation plane is shorthand writing in which words spoken in the presence of the note taker are converted to marks that most of us can't read.

Some of these examples beg the question of whether externalized (written and spoken) language represents work on the language plane or work on the notation plane. What, in other words, is the difference between the verbal plane and the notation plane? If Ranganathan's work is taken

Notes

literally, ideas presented in spoken language demonstrate work on only two planes (idea and verbal) while ideas presented in written language demonstrate work on all three planes (idea, verbal, and notational).

Caution This strikes me as literally correct but conceptually wrong. It seems to be subtly influenced by the colonial world in which Ranganathan grew up; oral cultures are allowed to work in only two planes while written cultures have the option of a third plane of work. This implies (if it does not directly state) that oral cultures are less than written cultures.

Self Assessment

Fill in the blanks:

7. ……..are part of a system which we will call a mental state.

8. Work on the notation plane is a form of……..

7.5 Canons/Principles of Ranganathan

Following are the Canons/Principles of Ranganathan:

7.5.1 Canons for Characteristics

- ***Canon of Differentiation***: Each characteristic used should differentiate, that is, it should give rise to at least two classes.
- ***Canon of Concomitance***: No two characteristics should be concomitant.
- ***Canon of Relevance***: Each characteristic should be relevant to the purpose of the classification.
- ***Canon of Ascertainability***: Each characteristic should be definitely ascertainable.
- ***Canon of Permanence***: Each characteristic should continue to be both ascertainable and unchanged, so long as there is no change in the purpose of the classification.
- ***Canon of Relevant Sequence***: The characteristics of the scheme are to be used in a sequence relevant to the purpose of the classification.
- ***Canon of Consistency***: The sequence of applying the chosen characteristics should be consistently adhered to.

7.5.2 Canons for Array

- ***Canon of Exhaustiveness***: The classes in any array of classes should be very exhaustive of their common immediate universe.
- ***Canon of Exclusiveness***: The classes in an array of classes should be mutually exclusive.
- ***Canon of Helpful Sequence***: The sequence of the classes in any array should be helpful. It should be according to some convenient principle, and not arbitrary, wherever insistence on one principle does not violate other more important requirements.
- ***Canon of Consistent Sequence***: Whenever similar classes occur in different arrays, their sequences should be parallel in all such arrays, wherever insistence on such a parallel does

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not run counter to other more important requirements. (See Principles for Helpfulness in Array below.)

7.5.3 Canons for Chain

- ***Canon of Decreasing Extension***: While moving down a chain from its first link to its last link, the intension of the classes should increase, and the extension of the classes should decrease.
- ***Canon of Modulation***: A chain of classes should comprise one class of every order that lies between the orders of the first link and the last link of the chain.

7.5.4 Canons for Filiatory Sequence

- ***Canon for Subordinate Clauses***: All the subordinate classes of a class, in whatever chain they may occur, should immediately follow it, without being separated from it or among themselves, by any other class.
- ***Canon for Coordinate Classes***: Among the classes in an array, no class with less affinity should come between two classes with greater affinity.

7.5.5 Canons for Terminology

- ***Canon of Currency***: Each of the terms used to denote the classes in a scheme of classification must be the one currently accepted by those specializing in the universe to which the scheme is applicable.
- ***Canon of Reticence***: The terms used to denote the classes in a scheme of classification should not be critical.
- ***Canon of Enumeration***: The denotation of each term in a scheme of classification should be decided in the light of the classes enumerated in the various chains (lower links) having the class denoted by the term as their common first link.
- ***Canon of Context***: The denotation of each term in a scheme of classification should be decided in the light of the different classes of lower order (upper links) belonging to the same primary chain as the class denoted by the term.
- ***Canon of Relativity***: The length of a class number in a scheme of classification should be proportional to the order of the intension of the class it represents.
- ***Canon of Expressiveness***: A class number should be expressive of the relevant characteristics of the class represented by it.
- ***Canon of Mixed Notation***: The notation of a scheme of classification should be mixed.

7.5.6 Special Canons for Knowledge Classification

- ***Canon of Hospitality in Array***: The construction of a class number should admit of an infinite number of new coordinate class numbers being added to an array without disturbing the existing class numbers in any way.
- ***Canon of Hospitality in Chain***: The construction of a new class number should admit of infinity of new class numbers being added at the end of its chain without disturbing any of the existing class numbers in any way.

Notes

- *General Canon of Mnemonics*: The digit or digits used to represent a specified concept in a class number should be the same in all class numbers having the concept represented in them, if insistence on such consistent representation does not violate requirements that are more important.
- *Canon of Verbal Mnemonics*: Verbal mnemonics should be rejected, without any hesitation, if a sequence more helpful to readers or more filiatory than alphabetical sequence exists. Verbal mnemonics by alphabetical device should be preferred if the alphabetical sequence is as helpful as any other sequence. The word forming the basis of verbal mnemonics should be that of international nomenclature whenever it has been set up.
- *Canon of Scheduled Mnemonics*: A scheme of classification should include a preliminary set of schedules of divisions based on characteristics likely to recur in an array of some order or other of all or many classes, or refer any recurrent array of divisions to the one schedule of them giving in Canon of Seminal Mnemonics.

Notes A scheme of classification should use the same digit to denote seminally equivalent concepts in whatever array of whatever class they may appear.

7.5.7 Special Canons for Book Classification

- *Canon of Classics*: A Scheme of Book Classification should have a device to bring together all the editions, translations, and adaptations of a classic, and next to them all the editions of the different commentaries on it, the editions of a particular commentary all coming together, and next to each commentary all the editions of the commentaries on itself in a similar manner (commentaries of the second order), and so on.
- *Canon of Local Variation*: The notational system of a scheme of book classification should provide for variations in Canon of Book Number.

  A scheme of book classification should be provided with a scheme of book numbers to individualize the documents having the same class of knowledge as their ultimate class.
- *Canon of Collection Number*: A Scheme of Book Classification may be provided with a Schedule of Collection Numbers to individualize the various collections of special documents to be formed, based on the peculiarities of their gross bodies, or their rarity, or service exigency, to facilitate use by readers. The collection numbers based on physical peculiarity may be of use in bibliographies also.
- *Canon of Distinctiveness*: In a Scheme of Library Classification, the class number, the book number, and the collection number, together forming the call number, should be written quite distinct from one another.

7.5.8 Principles

- *General Principle of Increasing Concreteness*: If there two classes are such that one can be said to be more abstract and less concrete than the other, the former should precede the latter.
- *Principle of Increasing Artificiality*: If two classes are such that one can be said to be nearer to the "thing-in-itself" or naturalness and farther from artificiality than the other, the former should precede the other.

Notes

- ***For Facet Formula (Principle of Inversion):*** In an analytico-synthetic classification, the implementation of the Principle of Increasing Concreteness requires that the facets in the facet formula of a basic class should be in the decreasing sequence of concreteness. If the scheme has rounds of facets, the facets in each round should be in the decreasing sequence of concreteness.

For Helpfulness in Array

- ***Principle of Increasing Quantity***: If the characteristic used admits of quantitative measurement, the sequence of the classes may be in the ascending sequence of the measure in which the classes share the characteristic.
- ***Principle of Later-in-Time***: If the classes in an array have originated in different times, they may be arranged in a parallel progressive time-sequence.
- ***Principle of Later-in-Evolution***: If the characteristic is of an evolutionary nature, the sequence of the classes may be parallel to the course of evolution.
- ***Principle of Spatial Continuity***: If the classes of an array occur contiguously in space, they may be arranged in a parallel spatial sequence.
- ***Principle of Increasing Complexity***: If the classes in an array show different degrees of complexity, they are arranged in the sequence of increasing complexity.
- ***Principle of Canonical Sequence***: If the classes are traditionally referred to in a specific sequence, although no underlying principle is discoverable, it will be convenient to confirm to this traditional sequence.
- ***Principle of Favoured Category***: The classes in an array may be arranged in the sequence of the decreasing quantity of documents published on them.
- ***Principle of Alphabetical Sequence***: When no other sequence of the classes in an array is helpful, they are arranged alphabetically by their names current in international usage.

Self Assessment

State whether the following statements are true or false:

9. The notational system of a scheme of book classification should provide for variations in Canon of Book Number.
10. When no other sequence of the classes in an array is helpful, they are arranged alphabetically by their names current in international usage.

7.6 Recent Developments in Classification

Change is the dominant factor of human life. There is immense importance to change in present period and it is the cause of human progress. The Library and Information Science is no exception to this. Therefore, it is necessary to include new trends in the syllabi. As a result of this change new concepts are coming forward. To prepare a skilled librarian the library organisation and the syllabus in it is very important. Nowadays library is not only confined to the transaction of books but it has become a centre of information. Therefore, it is very necessary to apply the new trends in the syllabi. The recent developments in library classification can be preferably considered in the following ways:

1. ***Knowledge of Computer:*** Today's age is termed as 'computer age'. One who has no knowledge of 'computer' is regarded as illiterate. That is why the syllabus of computer is included in Library and Information Science.

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2. ***Internet:*** The knowledge of internet is the need of the time. Because Internet is the most important factor of today's life. The future Librarian must be given the knowledge of this technique. That is why the internet is included into the syllabus of library and information science.
3. ***Use of Computer Cataloguing, Metadata, etc.:*** With the use of computer the old topics like classification, cataloguing is taught in a new fashion nowadays.
4. ***Inclusion of Information Technology in Syllabus:*** How does the information technology function? How to manage the information technology? The functioning of all these, must be made known to the common people. This is also included in the syllabus of Library and Information Science. Its main purpose is to motivate people to know about it.
5. ***Library Security:*** In order to make the Librarian cautious regarding the library security, they are to be made acquainted with the new techniques. These include magnetic security system, CCTV and RFID, etc.
6. ***Change in Management Science Studies:*** The recent trends in management studies, includes the use of laws and knowledge regarding the storage of information and its application.
7. ***Knowledge of Information Production and Sell:*** The librarian is expected to bear the skills related to the sale of knowledge production. He must be aware of the fact that, knowledge is never available without charge but some fee must be charged for it.
8. ***Librarian's Training Classes:*** It is desired that the Librarian ought to be well equipped with communication skills for this, training classes for Librarian are arranged to make him adept in communication skills.
9. ***Introduction of New Material to the Librarian Fulfilling Reader's Need:*** Different means for acquiring information such as internet, website is needed to be introduced to the librarians. The needs of the reader and the information they want can be fulfilled with this.
10. ***The education of Library and Information Science is imparted in the regional or local Language:*** By imparting education through regional or local languages the doors of education are kept open for everyone.

Example:

1. YCMO University, Nasik imparts education of library and information science in Marathi.
2. In Gujarat University students are imparted education in 'Gujarati' Language.

Self Assessment

Fill in the blanks:

11. The knowledge of …….is the need of the time.
12. The librarian is expected to bear the skills related to sell of …….production.

7.7 New Trends in Classification

At present, the work of the Library is not confined only to the transaction of the books, but it has become the centre of information. Therefore, it has now become mandatory to follow the current trends in the syllabi. With the current trends, in the Library and Information Science, the

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knowledge of computer science has got immense importance ultimately resulting in the need of the use of Internet. Nowadays, classification and cataloguing have got immense importance. The changes in the syllabi have made it necessary to maintain better co-ordination between Information Technology and Management Science. New Information production and sell should get a due reference in the syllabi to achieve this goal; the training courses of this sort are run. As a part of this, a demand of imparting education in Library and Information Science is coming forward. The education of this sort is also imparted by distance mode. Besides this, it is found that the utility and security of Libraries is steadily increasing by means of the programmes like continuous education, seminars, conferences and mass Literacy programmes, etc.

On the basis of various surveys, various trends can be identifies in the field of library classification:

1. The SC was used in the public libraries of UK, but now they have begun the use of DDC, because it is up to date.
2. The use of SC in Britain is becoming less and in place of it use of DDC is continuously increasing.
3. Efforts are being made in the direction of centralized classification service. The MARC project of LC and BNB has been active in the field of library classification.
4. The use of LC and DDC is increasing day by day.
5. It is felt that at present no classification scheme is suitable to classify the computerized stored information. But being revised, the LC and DDC will be in existence in future. The use of UDC is also possible in special libraries.
6. The use of LC in the libraries of colleges and universities in USA is increasing. But DDC is being used more than LC in the three types of libraries.
7. The trend of using UDC is also increasing day by day.
8. The use of UDC is increasing in the special libraries of most of the countries. Its use is increasing more in information and documentation centres also.

Self Assessment

State whether the following statements are true or false:

13. The work of the Library is only confined to the transaction of the books.
14. Efforts are being made in the direction of centralized classification service.

7.8 International Research Groups for Library Classification

During the past five decades, not only individuals but many organisations, societies and research groups have taken up the cause of library classification. They have carried on various research activities to give a new direction to library classification and to transform it into an effective tool not only for shelf arrangement but also knowledge organisation. The activities of these institutions are briefly presented in the following subsections.

7.8.1 Library Research Circle (LRC)

This was founded in Delhi by S.R. Ranganathan in 1951. This circle used to meet on Sundays at Ranganathan's residence to pursue research on various aspects of classification, especially relating to Colon Classification. Its members concentrated on fundamental categories, indicator digits, rounds and levels of manifestation, zone analysis and on requirements for depth classification.

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The work entitled Depth Classification, published by the Indian Library Association, 1953, provides ample testimony to the contributions made by members of LRC. Its activities withered away from 1954.

7.8.2 Fl/DCR

On the initiative of Ranganathan, FID formed a Committee on Classification Theory (FID/CA) in 1950. Later in 1961, FID/CA was renamed as the Committee on Classification Research (Fill/CR). This Committee has been stimulating classification research. The activities of FID/CR are communicated through a serial publication entitled FID/CR Newsletter, published four times a year listing classification research projects in progress. FID/CR has so far organised six international conferences. The present chairman of FID/CR is Dr. I. C. Mcllwaine.

7.8.3 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.

7.8.4 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 term courses 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).

7.8.5 International Society for Knowledge Organisation (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 organisation 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 organisation of knowledge according to the conceptual point of view. The society has already organised four international ISKO conferences. The summary of these conferences' deliberations. The society is also bringing out a quarterly journal entitled "Knowledge Organisation", formerly known as International Classification. This is devoted to concept theory, classification, indexing and knowledge representation.

Notes

Task Name different levels of research promoted by DRTC.

Self Assessment

Fill in the blanks:

15. Library Research Circle (LRC) was founded in Delhi by …….. in 1951.

16. ……..was established in Bangalore in 1962 by S.R. Ranganathan.

Case Study

Arguments against the Suitability of Library of Congress Classification for Spanish Libraries

The major library development in Spain started with the Second Republic, in 1931 as a part of the Republican government's programme aimed to national raising literacy level of population in the then predominantly rural Spain. The role of the national library network planned at the time was to support literacy and education efforts and bring culture and knowledge to culturally and educationally deprived parts of the country. This period from 1931 to 1939 was known as the Silver Age of Spanish Culture. Universal Decimal Classification (UDC), being the most widely used classification in Europe at the time, backed by the universal bibliographic project, was implemented in Spanish libraries. This implementation was extended to the large library network created at the request of the Book Interchange and Acquisition Board. The outbreak of the Civil War, in 1936, brought the library development to a halt and the extensive library network created at the request of the Republican government was destroyed, collections classified by UDC at the time, were burnt, censored and plundered.

At the end of the Civil War, in 1939, with the defeat of the Republican government and its departure into exile, General Franco's new government made it officially compulsory to use the UDC to classify the collections in Spanish libraries. The new Government introduced in legislation this official implementation of the UDC and drafted the Order of 1939. The new Spanish government of 1939 was closely related to those of Germany and Italy at the time, and the new implementation of the UDC was expected to have great impact in the Spain-Germany-Italy axis. The Order of 29 July, whereby the decimal bibliographical system was implemented in the classification of the collections of the State Public Libraries, established the compulsory use of UDC in state-owned libraries, not only in terms of collection arrangement but also in the organization of catalogues. Instead of the international edition of the UDC in French (Classification Décimale Universelle, (FID 151), Brussels: IIB, 1927-1933), valid at that time, the edition adopted in Spain was the German further extended, international full edition.

The implementation of the UDC was completed with the decree of 1939, which reinstated a library practice that had been fully in force during the previous decade. This implementation was also accompanied by serious purging in libraries: a large number of libraries created by the Republican government were closed and the purging and censorship of the books in existing libraries was imposed. Simultaneous with the official implementation of the UDC, the abovementioned Republican Interchange Board was reinstated in 1939, via the order of 13 December. The Book and Journal Interchange and

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Acquisition Board for Public Libraries were created which, although with a similar name, would have totally new goals. Before 1939, the Republican Board had adopted the UDC but not through legal regulations. There was no desire to legislate this aspect so as not to hinder the lively growth of libraries. The new Board created in 1939 ratified the adoption and extension of the UDC but the direction of the activities of the new Board was diametrically opposed to that of its predecessor. This new Board was committed to a policy and measures whose dynamics was, basically, the burning of books, 2 control, purging and repression.

UDC and Legislative Change in the Library Network of Catalonia

During the Spanish Second Republic, an autonomous government had been created for Catalonia. At the end of the Civil War, the autonomous government of the Generalitat disappeared and, once again, the Library of Catalonia depended on the Council of Barcelona, as had occurred during the dictatorship of Primo de Rivera in 1923. The new Central Administration set the guidelines for Catalan libraries and, via the aforementioned decree of 29 July of 1939, the UDC, that is, the 1934 version of the Dewey decimal classification system, was implemented.

Nevertheless, ten years before, the Decimal System had already been implemented in Catalonia, with the modifications made in 1905 by the International Bibliography Institute or, in other words, the version of the Universal Bibliographical Repertoire Manual. This system was implemented in the Library of Catalonia and throughout the public library network at the request of the director of the Library of Catalonia and classification teacher from the Library College of Catalonia, Jordi Rubio Balaguer. In the Library of Catalonia, the implementation began later, while the latter was transferred during the Civil War under the direction of Jordi Rubió i Balaguer. However, the final implementation occurred once the war was over, after 1939, when Rubió had already been dismissed from his post. So the new guidelines in the recently installed library meant that, in the end, the UDC was implemented and not the Decimal Classification System. As in the rest of the Spanish state, Catalan public libraries were subject to the classified collection arrangement in reading rooms and stacks, though in some cases it was not totally implemented as in many libraries users did not have direct access to the shelves. Nevertheless, the UDC was used to organize and distribute the systematic catalogues.

UDC in the Current Spanish Library Scene

Following the end of Franco's dictatorship, and the introduction of democracy in 1978, a great change occurred in Spanish legislative and library environment. The decree of 19 May 1989 approved the Regulations for State Public Libraries and the Spanish Library System which laid down the regulatory standards for the organisation and modus operandi of state-owned libraries. Regarding the technical processing of collections, the Regulations' preamble expounded the abolition of the Order of 29 July which had implemented the Decimal System. The new royal decree did not prescribe the compulsory use of any classification systems and this was left awaiting new provisions which would regulate the normalisation and unification of a classification system.

Such new provisions have yet to be issued. In Chapter III, Article 10, the Regulations state: "Technical and systemization of data. Following a report by the Library Coordinating Council, the Minister of Culture shall dictate the technical standards for: (a) The drawing-up of the different types of catalogues listed in the previous article. (Alphabetical catalogue of authors, subjects, titles and systematic procedure)". Furthermore, in conjunction with the administrative decentralisation of the state and the creation of the Autonomous Regions, between 1979 and 1983, specific competences were created in library matters in

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each region. However, existing regulations in autonomous regions still do not include classification-related rules. It can be inferred from the above that there is currently a legal loophole or vacuo legis regarding the classification system to be used. The new body to be created via the provision of 1989, the Library Coordinator Council, would be the authority to dictate the specific regulations for classification of library collections and systematic catalogues. But this new organ has not yet been consolidated, which explains the current legal loophole in this matter. This situation could be avoided with provisions issued by a transitory law, which could oblige professionals in state-owned libraries to use the UDC until subsequent regulatory provisions. As a consequence, once again, we find ourselves in a moment of transition, towards new theoretical and practical configurations in terms of classification systems in Spain.

First Adoption of a Different Classification System: The LCC in a University Library

Based on the provision of 1989, the first implementation of a different classification system in a Spanish state-owned library took place in Catalonia, at the library of the Pompeu Fabra University, inaugurated in 1990. In the process of selecting a classification system for this library, the rationale was that tradition should not be a hindrance: being a newly-created library, it did not have to be tied to traditionally used systems. The choice of the classification system was addressed and it was initially considered that if a new system was to be chosen it would delay all the technical processes with the inconvenience that any new personnel would not be trained to work with it. Numerous advantages were put forward in favour of implementing the LCC in the Pompeu Fabra University library.

Firstly, it was considered to be a universal system as it covers all subject matters, as a specialised classification system would not do, as the collections in a university library are multidisciplinary in terms of subject. Furthermore, diverse classification systems could not be applied as the Pompeu Fabra University library does not hold several libraries with multiple specialist subjects; rather it has a single library with one modus operandi and one management system. It was, thus, considered important that only one classification system should be used which would also be applied to the single catalogue of the library, to the arrangement of collections and to online access. The fact that the LCC was implemented in numerous academic and university libraries, in addition to in the Library of Congress itself, and that the system worked efficiently for users, was also an added advantage.

The classification system should not become insufficient or obsolete with the development of collections in size and scope. This seemed to be guaranteed as this system has been used widely in academic and university libraries in the United States. It was also taken into account the fact that LCC is a classification system maintained by an institution acting as the Registration Authority, with official responsibility for creating and maintaining the system. It was also argued that LCC has economic advantages due to the high number of bibliographic records that include this classification, which may be consulted and even copied. Another argument put forward was the fact that a large percentage of the Library of Congress Subject Headings (LCSH) has the corresponding LCC number linked to them, both in their printed and CD-ROM versions. The Pompeu Fabra University Library uses LCSH to assign subject headings to bibliographic entries. All these arguments supported the option for the Library of Congress Classification, 9 in addition to the enthusiasm shown by members of the academic staff. One of the initial difficulties that became apparent was the lack of knowledge regarding the LCC, which was rectified through a training course delivered by a librarian from Harvard University to the library personnel.

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Objections to LCC from the Perspective of Classification Theory

In his Prolegomena to Library Classification, S.R. Ranganathan (1967) proposed fundamental principles (canons) for building a library classification. Ranganathan tested his principles on UDC, proving that some of the points put forward against UDC by Sayers were correct. Based on the same principles, one can find many more objections to the LCC. Based on Ranganathan's principles, objections to LCC can be systematised according to the following canons:

The canon of differentiation expresses that, in all classification systems, each division of the main categories must be made according to different characteristics which are pursuant to systematisation, that is, to subdivision. This does not happen in the LCC.

The canon of relevance expresses that the characteristics chosen to systematise in a given subject area must be relevant for that area. Created to serve subject arrangement in a single library, LCC criteria for subject arrangement are not objective and may not be likely to be relevant for subject as such.

The canon of ascertainability does not govern the LCC due to the fact that the tables are not systematised using ascertainable criteria, rather they are enumerations instead. The canon of permanence states that a characteristic used as a classification criterion must be maintained and cannot be changed. In the LCC this is not the case, as each main class is structured based on different principles decided upon by subject specialists for their specific areas irrespective of systematic structure chosen for other disciplines.

The canon of concomitance refers to the fact that concomitant, i.e. concurrent characteristics should be avoided. In the LCC, concomitance occurs frequently as it is governed by criteria of functionality and dynamism compared to theoretical criteria.

The canon of relevant sequence refers to the fact that a succession of characteristics must be used in a relevant manner, which is why Ranganathan proposed his specific faceted formula for each main class. For example, if we classify literature, we would be interested first in the linguistic scope, then the form and finally the date. This relevant sequence is non-existent in most LCC tables as, continuing with the example of literature, it is not systematised following a single, common, unalterable criterion, but it responds to a list of authors without making use of any auxiliary or systematising characteristic.

The canon of consistent succession indicates that, in each scientific area, a classification system should present an order of common characteristics. For instance, in the UDC, in most cases, the filing order of facets puts, geographical first, followed by chronological period, followed by more specific subject facets: tools, materials, processes.

The canon of exhaustiveness refers to the fact that the classes must totally exhaust the universe from which they stem. In the LCC, this does not occur as this system is a reflection of the collections existing in the Library of Congress, meaning that knowledge areas not represented in its collections are not represented in the tables of the LCC.

The canon of exclusiveness is not accurately featured in LCC tables, as these have been designed by different subject specialists with no intention to relate different subject areas. Thus, concepts are repeated and enumerated in various subject areas.

Without going into further and more detailed analysis based on Ranganathan's principles - it is clear that the LCC structure does not comply with many fundamental principles necessary for knowledge organization and presentations schemes. The lack of logic in LCC is so notorious that it hardly requires further arguments. It is important to take on board that the LCC was not created as a universal knowledge organization system

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for international information exchange and access and it is not surprising that it lacks many of the qualities needed to fulfil this role. Because of the long history and nature of its development, being primarily created for shelf arrangement, it is easy to dispute LCC suitability for use as an effective subject access system, It is worth commenting that many faults in its structure from the point of view of logic and indexing functionalities and concept synthesis causes problems even for the Library of Congress. Every time a complex subject combination appears in the collection it cannot be classified by combination of existing subjects and a new subject has to be introduced in the schedules. Hence, LCC, which contains several hundreds of thousands of classes, requires constant insertion of new classes and is constantly growing while its power in indexing remains significantly weaker when compared to systems based on more modern synthetic principles.

Question

Critically analyse the above case?

Source: http://www.ukrbook.net/UDC_n/st_15.pdf

7.9 Summary

- Classification is the grouping or categorization of things on the basis of similar characteristics.
- There are many standard systems of library classification in use, and many more have been proposed over the years.
- Ranganathan suggested that information is created in three steps (each in a separate location or plane).
- An initial idea occurs in someone's mind (the idea plane); then it is described or discussed in words (the verbal plane); and finally it is written down (the notation plane).
- Change is the dominant factor of human life.
- The Library and Information Science is no exception to this. Therefore, it is necessary to include new trends in the syllabi.
- Now-a-day's library is not only confined to the transaction of books but it has become a centre of information.
- New Information production and sell should get a due reference in the syllabi to achieve this goal; the training courses of this sort are run.
- With the current trends, in the Library and Information Science, the knowledge of computer science has got immense importance ultimately resulting in the need of the use of Internet.
- During the past five decades, not only individuals but many organisations, societies and research groups have taken up the cause of library classification.

7.10 Keywords

Array: An array is a collective name given to a group of similar quantities.

Canons: A general law, rule, principle, or criterion by which something is judged.

Classification: The action or process of classifying something according to shared qualities or characteristics.

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Colon Classification: Colon classification (CC) is a system of library classification developed by S. R. Ranganathan and was the first ever faceted (or analytico-synthetic) classification.

Computer: A computer is a general purpose device that can be programmed to carry out a finite set of arithmetic or logical operations.

Document: A piece of written, printed, or electronic matter that provides information or evidence or that serves as an official record.

Enumerative Classification: Subject headings are listed alphabetically, with numbers assigned to each heading in alphabetical order.

Faceted or Analytico-synthetic Classification: Subjects are divided into mutually exclusive orthogonal facets.

Hierarchical Classification: Subjects are divided hierarchically, from most general to most specific.

Internet: A means of connecting a computer to any other computer anywhere in the world via dedicated routers and servers.

Principles: A fundamental truth or proposition that serves as the foundation for a system of belief or behaviour or for a chain of reasoning.

Sequence: A particular order in which related events, movements, or things follow each other.

7.11 Review Questions

1. Discuss the basic purpose of library classifications.
2. Describe the Process of Classification.
3. Explain the various types of classification systems.
4. "Ranganathan suggested that information is created in three steps." Elucidate.
5. What are the Canons for Filiatory Sequence?
6. Highlight the Canons for Chain.
7. What is the Principle of Increasing Artificiality?
8. Throw some light on the recent developments in library classification.
9. Do you think that the work of the Library is not confined only to the transaction of the books, but it has become the centre of information? If yes, give reason.
10. Discuss any two International Research Groups for Library Classification.

Answers: Self Assessment

1. True
2. False
3. Classifier
4. Consulting Schedules
5. False
6. True
7. Ideas
8. Coding
9. True
10. True
11. Internet
12. Knowledge

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13. False
14. True
15. S.R. Ranganathan
16. DRTC

7.12 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

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Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

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Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://117.211.119.206/jspui/bitstream/123456789/3597/1/canon%20presentation.ppt

http://www.clib.dauniv.ac.in/E-Lecture/Canons%20of%20Library%20Classification.pdf

http://www.isibang.ac.in/~library/portal/Pages/chp1.pdf

http://www.isibang.ac.in/~library/portal/Pages/chp6.pdf

http://xa.yimg.com/kq/groups/1392795/83256747/name/Library+Classification+Theory+Unit-3.pdf

Unit 8: Library Cataloguing

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Objectives

After studying this unit, you will be able to:

- Discuss the Meaning of Cataloguing
- Explain the History of Library Cataloguing
- Explain the Need and Purpose of Library Cataloguing
- Describe the Functions of the Catalogue
- Explain Library Catalogue as a Reference Tool

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- Describe Library Cataloguing versus Bibliographical Cataloguing
- Explain the Library Cataloguing versus Bibliographical Cataloguing
- Discuss Levels of Cataloguing

Introduction

The multidimensional growth of libraries accumulated huge collection of facts and thoughts mainly in the forms of books, periodicals, manuscripts, maps, microfilms, etc., for library users. With the accumulation of such material, it is the primary function of any library to provide the speedy access to the library resources for selecting the desired material. The libraries adopt several methods of which classification and cataloguing are mainly used for accessing the library materials. The catalogue is therefore an effective tool in making the resources of the library available to the reader. It interprets the library to the reader and brings the reader's needs into relation with the resources of the library.

8.1 Meaning of Cataloguing

Library catalogue is an essential and important tool for any library. This tool has been developed to facilitate the use of reading materials in a library. It is useful to both, the readers using the library and the library staff members who help the readers to use the library. Library catalogue is a list of books and other reading materials available in a particular library. It discloses to the reader the contents of a library collection. Whereas, cataloguing is a technique of describing the documents in order to help the reader to identify the document in which he is interested.

In this Unit, we introduce you to some of the basic ideas relating to library catalogues and cataloguing. The objective in the preparation and production of a library catalogue is to assist; the users in identifying the contents of a library. The library catalogue guides the users to identify, locate and access reading and reference materials in the library. Essentially a library catalogue functions as a finding tool to know what a library has.

A library catalogue lets a reader know if the library has a document for which the author or the subject or the exact title is known. In addition, it gives information regarding all the other books on a given author or all other books in a subject or a publisher's series or the different editions or translations of a given title available in the library. In the preparation of such a tool, a standard code or rules and procedures for cataloguing different kinds of documents guide cataloguers.

Libraries also create a number of other records of documents acquired by them. Some of these are: accession register, the shelf register, current periodicals register, register for periodical holdings, etc. Much of the bibliographical data that go into these registers may be more or less the same as in a library catalogue.

Example: The accession register is an inventory of documents acquired by a library containing detailed information about the price, the vendor who supplied the document, size, in addition to the usual bibliographical data. The shelf register is a list of documents reflecting exactly the way documents are arranged on the shelves in different rooms or halls. It is useful for stock verification. They have some resemblance to a library catalogue but their functions are quite distinct and different.

Library catalogues are also different from the publishers' catalogues, booksellers' lists, bibliographies, etc. Each of these reference tools is useful to build up the collections for a library book selection, but they do not do what a library catalogue does.

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Earliest known form of library catalogue indicates that it was compiled to serve as a simple inventory or list of library resources. Thus, Pinakes was the first great library catalogue of western civilization, just as the Bible of Gutenberg was the first great printed book. The foregoing examples of catalogues of the early and medieval Libraries tend to indicate that the catalogue was more of a record for the keeper or custodian of the books than one for the public.

A modern library catalogue displays the record of a library's resources with a view to make them easily accessible for study and reference; serves as a dependable tool of communication of ideas and subjects dealt with in the books to the readers who use the library.

Did u know? Recent trend of computerization of library catalogue for developing Online Public Access Catalogue (OPAC) had faced maximum problems because of varied types of rules followed by different libraries. Introducing standard codes of cataloguing like ISBD, AACR II, etc., further solved these problems.

Self Assessment

State whether the following statements are true or false:

1. Library catalogue is an essential and important tool for any library.
2. Library catalogues is not different from the publishers' catalogues.

8.2 History of Library Cataloguing

The custodial responsibility assumed by the libraries of the early stages obligated on them the functions of acquisition and conservation entailing also the use of some system of bibliographic control so that the items on the store could be located and retrieved.

8.2.1 Early Stage – Evolution of Catalogue – Library Catalogue Code

Some such methods though primitive, existed almost until the time the manuscripts came to end and ceased to be the primary vehicles of communication. The discovery of Assyro-Babylonian clay tablets, the wall inscriptions at Edfu and the extant remnants of the papyrus rolls of the Egyptian, Greek and Roman civilizations testify this fact. The catalogues and the materials they listed, both were in primal forms (clay tablets, inscriptions and papyrus rolls). From the archaeological finds of the Assyro-Babylonian clay tablets (1668–626 B.C.), the antiquity of the library catalogue can be easily placed around 2000 B.C. These tablets were similar to press guides with bibliographic data, such as title (occasionally, with opening words), number of tablets constituting a work, number of lines on a tablet, distinct subdivisions and location marks inscribed on them. They served as simple location devices. However, all such primal forms were not verily catalogues.

Notes This system with no change continued to exist well into the first seven centuries of the Christian era.

The fall of the Roman Empire in the 6th century brought about a deliberate destruction and dispersal of the hitherto great collections of the private, public and temple libraries. The emergence of Christianity as the state religion in the 3rd century having already dealt a severe blow, the temple libraries began to disintegrate. Their place was now taken by the monastic

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libraries. As the major instruments of education in the middle ages (300 AD–1100 AD) monasteries served the cause by collecting, producing and preserving the books useful in the learning by the clerics. The famous work, institutions of Cassiodorus (6th Century) was intended to serve as a scholarly model with an annotated guide to what was valuable reading of the times. The need of catalogue was not felt. Efforts were made later in compiling inventories. A list of books given by Gregory the Great in the 8th century AD to the church of St. Clements (Rome) was the earliest of the monastic library catalogues. It was a marble tablet with an introduction or prayer and a few biblical works inscribed on it. The catalogue of the monastic library of York composed by Alcuin in verse, which could be either a list of famous authors or a bibliography, was the next. A third example is De Trinitate of St. Augustine, which too was a simple list of works transcribed on the flyleaf of a work.

8.2.2 Age of Inventory (1200 A.D.–1500 A.D.)

Such simple lists were attempted in good numbers in the succeeding periods (900 A.D.–1100 A.D.). Louis Pious (814–840 A.D.) issued a decree requiring the monasteries and cathedrals to list all the books in their possession. So the catalogues of the monasteries and cathedrals were compiled to serve the need for inventories of the material possession. Books were arranged not by author but by the importance of the work in the order of Bible, other religious works and secular works. Contents were not indicated in the case of collections (works of the same author and works of various authors on the same subject hound together, as was the practice). The old traditions of the pre-Christian era continued.

8.2.3 Age of Finding List (1600 A.D.–1800 A.D.)

Although the inventory idea persisted, many catalogues of the 16th century such as the Catalogue of St. Martin's Priory of Dover, the Syon Catalogue, the Catalogue of the Bretton Monastery, etc. contained many additional details such as content notes, names of editors, translators, etc. in the entry and provided with author and other indexes. The 16th century proved a further productive period influenced by great bibliographers like Gesner, Treflerus, Maunsell, to mention a yew. Of particular significance was the contribution made by Andrew Maunsell, a bookseller and a bibliographer in his own right, who published a bibliography of books in English. He adopted dictionary arrangement making entries under the surnames of authors with added entries provided under editors, subject words, etc. in a limited way. Through his procedure the concept of main entry (to be distinguished from the added entries as the one made under author with full bibliographic description) emerged. The idea of uniform heading also owes to him. He entered the Bible and books of the Bible under the uniform heading of Bible.

By the close of the century, although the vestiges of the inventory catalogue still existed, the need for uniformity and systematic approach to catalogue was clearly recognised. Full description became evident. Author entry gained importance as the primary entry providing the basic approach. Added entries were sought for additional approaches.

Caution Printed catalogue became the fashion. Efforts at standardization received new inspiration from men like Naude, Dury, Brillet and others.

The Bodleian catalogues produced during the century marked a milestone and greatly influenced the succeeding studies of cataloguing practice. Initially intended as shelf guides on single printed pages with supplements to follow, a catalogue (in book form) of printed books and manuscripts of the Bodleian library (in the typical manner of the 16th century shelf list) was printed in 1605. Thomas Bodley and Thomas James were the principal men behind it. The last of the Bodleian

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catalogue issued under the guidance of Thomas Hyde in 1674 marked further improvement. It continued the alphabetical order and other procedures as in the earlier catalogues but provided better assemblage of literary units. The preface contained rules which remained authoritative until the middle of the 19th century.

The next century i.e., 18th century was rather a period of stabilization than innovation or solution. Libraries, more importantly the university and private collections grew in size without definite improvements in organisation. The spread of ideas was slow. Only the printed catalogues did serve the purpose but in a limited way; as examples. But most of them were influenced by the early bibliographers who were immature and were not concerned with logic or theory.

8.2.4 Modern Catalogue (1900 A.D.)

The 19th century was an age of great many codes: Catalogue was considered a finding list with the Bodleian concept of literary unit occasionally given expression in compilations. There ensued a spate of debates on the relative merits of author, dictionary, classed and alphabetio-classed catalogues. Author (under surname) and title (for anonymous work) entries constituted the author catalogue. From this author catalogue did develop the dictionary catalogue. It consisted of duplicate entries under authors, titles, subjects and forms.

Example: The catalogue of the printed hooks of the Society of Antiquaries of London (1816), supposed as the first true dictionary catalogue, employed duplicate entry approach in one single alphabetical file. Classed catalogue was limited to subject arrangement in systematic order by grouping related subjects together or in proximity. As the purpose of the catalogue became better clarified, the classed catalogue gained importance. It applied the systems of classification schemes devised by Bacon, Horne, Brunet and others. The alphabetico-classed catalogue too became popular during the middle of the century. It was rather an amalgam of dictionary and classed catalogue.

The first half of the century was, thus, characterised by a variety of combinations of arrangements and indexes, broadly divisible into two categories. The first category constituted lists arranged in subject or classed order, i.e., broad subjects or classes in shelf list order with works sub-arranged according to accession and chronologically by imprint date, title or author. The second category consisted of alphabetically arranged indexes to classified file which was not a systematic one.

The supplementary alphabetical subject indexes created the need for standard lists of subject headings as aids. Since the practice of picking up subject words from the title lacked uniformity and made syndetic structure difficult, adoption of a better system specially needed for construction of dictionary catalogue was felt. This initiated efforts towards development of standard lists of subject heading.

Did u know? The ALA published such a list entitled, List of Subject Headings for use in the dictionary catalogue in 1895.

It was considered as a standard list suitable for all types of libraries and found wide acceptance. The third and final edition was brought in 1911 when the Library of Congress List of Subject Headings (issued in 3 parts between 1909 and 1913) replaced it. Besides these two, three other publications viz., Poole's Index to Periodicals Literature, the ALA Index (an index for collections and composite works), and the Catalogue of the ALA Library (intended to serve as selection tool, cataloguing guide and printed catalogue), all published in 1893 (which still continue under different names and publishers) proved as useful bibliographical tools and influenced cataloguing.

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However, the idea of specific subject entry was still in the process of making with insistence on the use of standard terms in titles to indicate the subjects. The introduction of printed catalogue card service in 1901 by the Library of Congress was yet another development.

Self Assessment

Fill in the blanks:

3. The ……catalogues produced during the century marked a milestone and greatly influenced the succeeding studies of cataloguing practice.
4. The introduction of printed catalogue card service in ……..by the Library of Congress was yet another development.

8.3 Need and Purpose of Library Cataloguing

Libraries generally acquire reading and reference material in various physical forms, which can be utilized by users for study, reference, research, and other purposes. This reading and reference material may also be procured in different physical forms such as printed documents, microfilms or machine-readable forms, located and shelved at different place.

The primary purpose of a library catalogue is to serve as a guide to the collection of materials. Basically, it reveals to the readers the document or non-document materials contained in the library and aids them in finding out whether the materials of their interest are available in the library or not. A library catalogue also serves as a key to the library collection as well as location or as retrieval tool.

Library collections house a wide variety of materials on many different topics and in many different formats. The challenge in making these things available for the use of library patrons is letting those patrons know what is in the library collection. This is the reason for having a library catalogue and for taking the time to correctly catalogue library materials.

The library catalogue might be compared to the index for a book. The index provides the reader with a way to find information in the book without having to read every page. The index tells the reader the page on which the information about a specific subject can be found. The library catalogue does the same thing. It tells the library user exactly where materials meeting their specific needs can be found, with the call number of the book corresponding to the page number in an index.

The information contained in the cataloguing record provides the many access points needed by the patron looking for information in the library. Traditionally, the library card catalogue provided access by the author's name, the title of an item, and the subject(s) covered in the item. Other points of access were additional authors, names of series, illustrators, and sometimes the titles of contents.

Computer catalogues can, in theory, provide access to any part of the information contained in the record for an item in the library. The development of MARC (Machine Readable Cataloguing) in the 1960's made it possible to encode all areas of a cataloguing record to be searchable. In MARC cataloguing, each piece of information in a catalogue record is given a numerical code, or field, and sometimes an alphabetical or numerical sub field. This coding makes it possible for a computer program to be written that looks for particular numbered fields when a particular type of search, such as a subject or title, is requested. Because all of the information in the cataloguing record is encoded, searches could optionally be done by ISBN number, by series, by publisher, by date; or by any of the pieces of information stored in the cataloguing record.

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Notes MARC has set the standard for all computer catalogues used in libraries today, and if the records contained in the catalogue comply with MARC requirements, the only controls on areas to be searched are the limits of the particular cataloguing program.

When library materials are catalogued in a careful and complete manner, access is provided for the library patrons and staff to all sources of information on a particular topic, by a particular author, or in a particular format, that the library possesses. The better the access, the more use the collection receives, and the more satisfied the patron is in his or her search for information in the library.

Self Assessment

State whether the following statements are true or false:

5. The primary purpose of a library catalogue is to serve as a guide to the collection of materials.

6. The library catalogue might not be compared to the index for a book.

8.4 Functions of the Catalogue

One of the essential functions of the library is to satisfy the user's needs and the library catalogue performs this function by matching the needs of the user with the resources of the library. According to Dr S.R. Rangathan, the function of the catalogue "is to help the exploitation of resources of the library in conformity with the laws of library science."

According to Shera and Egan, basically there are two functions of a library catalogue:

First, the accurate and speedy determination of whether or not an item known by author or title is in the collection or in the library, and if yes, then where it may be found; and

Second, what materials the library contains upon a given subject, where they may be found, and how they are related to one another.

However, a library catalogue should perform the following functions:

1. In order to provide information concerning all works by a given author, as far as they exist in the library, the catalogue should arrange author entries in such a way that all works of the same author will, as far as practicable, be found together under the same name.

2. In order to make provisions for information concerning all editions, translations, etc., of a given "work" as far as they exist in the library, the library catalogue should record each book in the library by author, translator, editor, compiler, series or by any other person, body or name under which a reader might look.

3. In order to show the subject coverage of a library, a catalogue should list each work and even parts of a work or components of a composite work under the subjects treated of.

4. The catalogue should also arrange the subject entries in such a way that like topics fall together and related topics correlated.

5. In order to guide readers, whose approaches to authors' names, titles, specific subjects, etc., may be different from those used in the catalogue, the catalogue should employ cross references by which a reader may be guided from one entry in the catalogue to another.

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6. In order to help readers who know the exact titles of books, a library catalogue should record titles as distinctive.
7. To aid identification of the materials in the library, a catalogue should provide description of each book by giving authors' full name, title, edition, imprint and collation; should also include notes when necessary.
8. In order to facilitate speedy location of a work, the catalogue should also mention the Call number by which the books may be requisitioned, located, and obtained.

From the above enumerated functions of a library catalogue, it is noticed that besides tracing a particular publication or book, a library catalogue serves to answer the following questions:

- Is this particular "book" (publication) available in the library?
- Which editions of this particular book are available in the library?
- Which book by a particular author is available in the library?

Self Assessment

Fill in the blanks:

7. The catalogue should also arrange the subject entries in such a way that like topics fall together and related topics……...
8. In order to help readers who know the exact titles of books, a library catalogue should record titles as…….

8.5 Library Catalogue as a Reference Tool

The catalogue can be your most effective reference tool. No matter how many resources you examine every day, you just can't know all of them! The catalogue is an organized list of the library's collection and helps you find resources in different ways. It's both a good beginning to your strategy and a resource in itself. It is useful in several ways.

- Use the catalogue to find books which will have sections on your topic, even though the book is not catalogued under that topic.

Example: When a patron asks for information on German Shepherds, and the catalogue shows nothing under that specific breed of dog, you would then look up "dogs" and check the general books on the subject for chapters on German Shepherds.

- Sometimes it takes very creative use of the catalogue to find a book which will help on more obscure topics.

Example: Something on old egg beaters might be found in books on kitchen implements, general antiques, metal tools, folk designs, or histories of technology, among others. It is good practice to check first under the most specific heading you can think of. If you don't find what you need, broaden your search.

- Use entries for other books on the same subject to help you find the correct subject headings to use.

Example: If you don't know the subject heading, you may do a keyword search. If the term you used isn't in a subject heading but appears in the title of a book, from that catalogue record you can get the correct subject headings to use.

Notes

- Use the catalogue to quickly locate miscellaneous information such as authors' names and dates. Or use call numbers from sources that you found in your search to determine a good place to start browsing the shelves.

Accessing records for library resources is easier online, but you're still tied to the machine. Locating terminals throughout the library is one solution. A more recent concept is roving access, using laptops or PDAs and wireless networks. Another catalogue challenge is connecting the library collection to Web resources. One method to bring all resources together is to use Dewey (or whatever classification system your library uses) to organize links to recommended Web resources, at the reference workstation and on the Web. Dewey can be used to organize Web links for users, reinforcing the connection between catalogue subject headings and categories of related Web resources. Increasingly, your catalogue may connect to the web and be part of an integrated library system.

Task Locate a handbook of chemistry and/or physics in the catalogue.

Self Assessment

State whether the following statements are true or false:

9. The catalogue can be your most effective reference tool.

10. Sometimes it takes very creative use of the catalogue to find a book which will help on more obscure topics.

8.6 Library Cataloguing versus Bibliographical Cataloguing

We have so far discussed the definition, purpose and functions of a library catalogue. We have learnt that a library catalogue serves as a finding tool and it also enables users to find out important information about all the works of a given author or on a given subject, or edition, and so on.

There are other records and tools in a library, which also serve as finding lists of reading and reference materials. But they differ in many ways when compared to a library catalogue. Let us discuss such records and tools in three groups as given below.

- Library records, like accession register and shelf list, etc.
- Bibliographies such as national bibliographies and subject bibliographies, etc.

All these records and tools carry bibliographical data of documents such as author, title, edition; year of publication just as a library catalogue but they perform different functions.

8.6.1 Library Cataloguing Records

A number of records are created in a library for its collections to serve different purposes. Some of these records are accession register, shelf list, periodical holdings register, etc.

An accession register of a library is a date wise record of reading and reference materials acquired by a library either by purchase, exchange or through gift. Details of information pertaining to the date of acquisition, the serial number of the item, i.e., the accession number, author, title, edition, publisher, date of publication, price, mode of acquisition, supplier, etc. are recorded in the accession register. It serves as an authentic inventory of items acquired by the

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library. As it is a date-wise record of the collections and arranged accordingly to the serial number of the items, it cannot serve as a finding tool for documents available in the library from the point of view of author, title or subject. To locate or find out a particular item, the entire accession register has to be searched serially, which is a very time consuming operation. One needs to know the accession number of an item to search in the accession register. The accession register is used to find out every bit of information on an item, which is not available in any other record. It is also a permanent record of the library and fulfils the function of a stock register.

Notes The periodicals holdings register which gives detailed information of the volumes of journal titles available in bound or unbound form, is another useful finding tool in a library. Quite often the information in this register is transferred to the library catalogue. But a separate register is also maintained. This register cannot serve as a library catalogue as it is confined to periodicals only.

Thus, a library catalogue is a unique and distinct tool to fulfil some of the most important functions in using a collection of a library. It helps to locate a document even if it is demanded either by author, or title or subject of the book.

8.6.2 Bibliographies

A library catalogue and a bibliography are distinct from each other as they serve different purposes. A bibliography is an organized list of documents compiled for some purpose. The purpose is usually to bring to the notice of the reader an exhaustive or select list of documents relevant to the pursuit of his enquiry or study. A bibliography may he of books such as Cumulative Book Index, or journal articles such as Indian Education Index (1947-1978) edited by K.G. Tyagi, 1980 or of doctoral theses and dissertations such as Bibliography of Doctoral Dissertations in India complied by Association of Indian Universities, New Delhi. The bibliography may be of documents published in a language such as Hindi Grantha Kosha 1976-1980 and 1981-1985, of publications of a country such as Indian National Bibliography. Details of varieties of bibliographies have been given in the Course BLIS-05. The bibliography may be on a particular subject or documents pertaining to a specific period of time, in one or more languages. A bibliography may either be comprehensive in its scope and coverage or selective.

These bibliographies cater to all the approaches of readers such as author, subject, and title and also may be annotated. Such bibliographies are generally prepared either by scholars or by technically qualified library staff. They may be prepared by individual libraries at local level to assist their users. In such cases, they comprise select list of items, which are of specific interest to the users. Bibliographies are expected to be authentic and are mostly used as reference tools in literature search. Preparation of bibliographies calls for scholarship and critical faculties of assessment and evaluation of documents, on the part of their compilers. The basic difference between a bibliography and a library catalogue is that a bibliography tells us what publication have been published but does not tell us where (in which library) these publications will be available for reading.

Self Assessment

Fill in the blanks:

11. A number of ……..are created in a library for its collections to serve different purposes.

Notes

12. The ……register is used to find out every bit of information on an item, which is not available in any other record.

8.7 Bibliography and Publisher's Catalogue

Bibliographies do not contain call numbers of books and names of libraries possessing those books. In order to consult the book, a reader has to consult a library catalogue which tells the reader, whether the required book is available in the library along with the call number of the document. This call number directs the reader to the hook on library shelves.

A library catalogue, however, records, describes and indexes the bibliographical resources of a particular library. Nonetheless, the printed catalogues of some of the biggest national libraries of the world such as the Library of Congress, the British Library, the National Library, Calcutta, serve as excellent bibliographical tools for literature search, reference and cataloguing work. The volume, variety and the quantity of materials built up in these national libraries of eminence and the scholarly and meticulous way the catalogue entries are prepared and presented, invest these catalogues with unquestionable authority as reference tools.

So, while a library catalogue is a key to a library's collection, a bibliography is merely a list of documents, comprehensive or selective in its scope and coverage, etc. and hence does not serve the functions of a library catalogue.

Very often, the terms 'catalogue' and 'index' are used synonymously. In other words, they are taken to mean one and the same thing but they are not. A catalogue, more particularly, a library catalogue is a record describing the documents acquired by a library, whereas an index provides access to any of bibliographical entries of the catalogue through author, subject or title index. In the context of a library catalogue, the generally accepted difference between a catalogue entry and index entry is that the former includes some descriptive specification of a document, whereas an index entry merely locates an author or a subject or title.

Did u know? An accession register is distinct from a library catalogue. Although it also carries all bibliographical data of documents, yet it cannot serve the functions of a library catalogue.

The shelf list is an inventory record of a library which records bibliographical data of items arranged exactly the way the items are arranged on the shelves of a library in various rooms, halls or floors. Each item is represented by a card giving call number, author's name, title, edition, volume number, copy number, accession number and such other details as deemed necessary for a particular library. The call number represents the class number, the book number and the location symbol. The reader can easily obtain the needed book from the shelf by this number. However, this order of arrangement just reflects the order of arrangement of items on the shelves. A shelf list, thus, primarily, serves as an inventory and controls the movement of the collection. It is the most important tool for checking the stock of a library. A shelf list resembles a library catalogue in many ways. It may also serve as a classified catalogue when such a catalogue does not exist in a library. But its function is different from that of a library catalogue. It does not provide approaches by author, title or subject.

Self Assessment

State whether the following statements are true or false:

13. Bibliographies do not contain call numbers of books and names of libraries possessing those books.

14. An accession register is not distinct from a library catalogue.

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8.8 Levels of Cataloguing

Following are the levels in Cataloguing:

8.8.1 Full Level Cataloguing

Full level cataloguing consists of an Anglo-American Cataloguing Rules, 2nd edition, 1998 (AACR2) level 2 bibliographic record, with all needed access points, including full subject analysis. Full level differs from BSR level chiefly in the number of access points and notes provided. For full level cataloguing if a name used as an access point does not appear in the body of the entry, a note must be added to justify the entry.

Access points on a full level record must be supported by a national level authority record, so headings are contributed to NACO (Name Authority Cooperative Program) as needed.

Print

Full level cataloguing is provided for original cataloguing only for items specifically requested at that level by the Reference Section or the History of Medicine Division.

Full level copy records are kept at full level.

Non-print

The Cataloguing Section provides full level cataloguing records for library productions and other items by special request.

Full level copy records are kept at full level.

8.8.2 Core Level Cataloguing

Cataloguing consists of a bibliographic record containing at least the minimum set of data elements prescribed by the Program for Cooperative Cataloguing Standard Record, augmented with the following elements:

- Fully coded Leader and 008.
- Byte 39 Cataloguing source is coded blank.
- Bibliographic history notes and bibliography/index notes are provided, although library will no longer add pagination information to a 504 note.
- A full complement of subject headings is provided.
- Other elements deemed important for identification and access may be added at the cataloguer's discretion, but notes to justify access points are not required.

Essential access points on a library record are determined by cataloguer judgment and must be supported by a national level authority record.

8.8.3 Limited Level Cataloguing

Limited cataloguing consists of an Anglo-American Cataloguing Rules, revised 2nd edition, 1998 (AACR2) level 1 bibliographic record with, generally, two bibliographic access points. A third access point is added for a parallel title when one is present in the item.

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Full authority work will be performed for all names used as access points. A series access (added entry) will also be provided as necessary as a third or fourth access point and series authority records will be created. All authority records created are submitted to NACO as specified in the Authority Record Policy document.

Note: Prior to 2012, authority records created for limited level cataloguing were not submitted to NACO.

8.8.4 Archival Level Cataloguing

Archival level cataloguing consists of a record created according to the standards specified in Archival Moving Image Materials: a Cataloguing Manual. Authority work for archival level cataloguing is submitted to NACO.

Self Assessment

Fill in the blanks:

15. ……..cataloguing consists of an Anglo-American Cataloguing Rules, 2nd edition, 1998 (AACR2) level 2 bibliographic record, with all needed access points, including full subject analysis.

16. ……cataloguing consists of an Anglo-American Cataloguing Rules, revised 2nd edition, 1998 (AACR2) level 1 bibliographic record with, generally, two bibliographic access points.

Case Study

The Online Library Catalogue: Paradise Lost and Paradise Regained?

The impetus for this essay is the library community's uncertainty regarding the present and future direction of the library catalogue in the era of Google and mass digitization projects. The uncertainty is evident at the highest levels. Deanna Marcum, Associate Librarian for Library Services at the Library of Congress (LC), is struck by undergraduate students who favour digital resources over the online library catalogue because such resources are available at any time and from anywhere. She suggests that "the detailed attention that we have been paying to descriptive cataloguing may no longer be justified retooled cataloguers could give more time to authority control, subject analysis, [and] resource identification and evaluation".

LC commissioned Karen Calhoun (2006) to prepare a report on "revitalizing" the online library catalogue. Calhoun's directive is clear: divert resources from cataloguing mass-produced formats (e.g., books) to cataloguing the unique primary sources (e.g., archives, special collections, teaching objects, research by-products). She sums up her rationale for such a directive, "The existing local catalogue's market position has eroded to the point where there is real concern for its ability to weather the competition for information seekers' attention". At the University of California Libraries (2005), a task force's recommendations parallel those in Calhoun report especially regarding the elimination of subject headings in favour of automatically generated metadata.

The Reign of the Online Catalogue

By the early 1980s, a critical mass of online catalogue deployment had been achieved across the United States. A nationwide survey demonstrated that over 80% of library users

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held favourable views of this new form of the catalogue. The decade and a half beginning in the early 1980s was the golden age of the online catalogue, because library users depended on it almost exclusively for finding information on the topics that interested them. The online catalogue was and still is an appropriate place for people to start their search for information because books synthesize human knowledge about particular phenomena in and across disciplines. They span large intellectual spaces, tackle mammoth problems, make more intensive cases than all other literary genres, and undergo rigorous editorial review.

Paradise Lost

From the start, users wanted subject searching improved in online catalogues, they told us subject searching was difficult, and they wanted tables of contents and journal articles added to the catalogue's database. Through its Bibliographic Service Development Program, the Council on Library Resources sponsored a long list of researchers to demonstrate subject access improvements to online catalogues. By the early 1990s, researchers recommended these solutions:

- Make subject searching in online catalogues easier using post-Boolean probabilistic searching with automatic spelling correction, term weighting, intelligent stemming, relevance feedback, and output ranking
- Streamline users' book selection decisions at the catalogue by adding tables of contents and back-of-the-book indexes to cataloguing (i.e., metadata) records
- Reduce the many failed subject searches by expanding the online catalogue with full texts—journal and newspaper articles, encyclopaedias, dissertations, government documents, etc.
- Increase finding strategies in online catalogues through the library classification

The reasons why these solutions were not applied to online library catalogues to transform the user experience are subtle, nuanced, and varied: (1) the library profession's long-time obsession with descriptive cataloguing, (2) the focus of the technical services department on other priorities, e.g., retrospective conversion, cataloguing backlogs, authority control, etc., (3) the profession's conscious shift away from supporting technical services in favour of public services, (4) the ever increasing per-item cataloguing cost, (5) the failure of the research community to arrive at a consensus about the most pressing needs for online catalogue system improvement and to field cost-conscious solutions, (6) failure of the library staff issuing the Requests for Proposals (RFPs) to act in concert about needed system improvements, (7) lower-than-inflation funding allocations for libraries, (8) the costs of building collections and licensing resources pushing well beyond the rate of inflation giving rise to the open-access movement, (9) the high cost of Integrated Library System (ILS) technology generally, and (10) the failure of ILS vendors to monitor shifts in information-retrieval technology and respond accordingly with system improvements. In the end, widely disconnected organizations and market forces failed to converge in a direction that kept users queuing at the online catalogue.

The Reign of Google

In the late 1990s, the World-Wide Web grew exponentially. For-profit software vendors deployed search engines such as Alta Vista, Excite, and Hotbot to showcase full-text searching to prospective software purchasers specifically and to Internet searchers generally. Ironically these systems embraced post-Boolean searching, the very technology that online catalogue vendors eschewed. By the early 2000s, Google, a for-profit company with the objective of "organizing the world's knowledge", registered 700 times more searches on

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a daily basis than the online library catalogue for the state-wide campuses of the University of California served on a monthly basis.

Google now reigns. Given the company's tremendous investment in digitization projects, Google has every intention of keeping its exalted position for some time to come. The company has deep pockets, innovative leadership, high-level technical talent, and a proven track record on delivering successful products to the marketplace.

Domain Expertise – It's All about Knowing What You Want and Where to Look

Domain experts – scholars, scientists, and experienced researchers who have expert knowledge of their discipline as a whole and in-depth knowledge about a couple of ideas that ranks them amongst the world's experts – know the unanswered research questions, sticky controversies, and active scholars in their discipline. Rarely, if ever, do they need to conduct the brute-force subject searches that characterize the searches of domain novices. When they are stumped, their standing in the field gives them carte blanche to contact the world's experts to get answers to questions about who is doing research or has published on a topic. Primary sources are truly the intellectual playground of domain experts: they use primary sources to make new discoveries, and the by-products of their research are the creation of new primary sources.

Most people are domain novices about their topics of interest. Undergraduate students especially are just beginning to learn the summary knowledge of a discipline. They have no depth, do not know the discipline's influential authors, important questions, cutting-edge research, or research methodologies. Building a catalogue of the future that is biased toward primary sources does not serve the interests of domain novices. Imagine a future University of Michigan co-ed whose professor assigns her a term paper on Kukulcan. Before cracking open her textbook to learn the absolute basics about Kukulcan, she searches Calhoun's online library catalogue of the future and retrieves images of Kukulcan sculptures from the University's Kelsey Museum. Because she has no knowledge of Kukulcan nor the Mesoamerican culture from which Kukulcan derives, she would not understand what the sculptures mean, how to make sense of the minimal metadata usually associated with museum objects such as these, and how the images now figure into her on-going search for information or the term paper her instructor has assigned her to write.

Diverting our existing online library catalogues away from books to primary sources will drive this co-ed and her peers back to the simplicity of Google as quickly as one can say "Kukulcan."

Building the Future Online Catalogue Now

Before mass digitization projects make significant headway, the library community must act on building the future online catalogue joining forces with researchers, practitioners, and system designers in related and allied fields to: (1) gather relevant information, (2) test prototype post-digitization-era catalogues, (3) evaluate results and make decisions, (4) assign tasks to willing parties, and (5) execute them.

The information-gathering phase must include definitions of the future online library catalogue. Will books dominate or will future catalogues feature the full gamut of scholarly products and by-products? To get us started is with her extensive research on the future of scholarly communication. With regard to subject access in the catalogue of the future, we should consider all options, e.g., continuing the status quo, enlisting human indexers to apply faceting, restricting faceting to computer-based approaches, assessing automatic

Contd....

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subject cataloguing and classification, eliminating subject analysis altogether. Here are examples of subject-access functionality in future online catalogue prototypes that should be assessed in the testing phase:

- Ranking algorithms that give the highest weights to the summary data in metadata records such as titles, subject headings, class numbers, and qualification metadata to ensure the precision of ranked output
- Relevance feedback (i.e., "find more like this") mechanisms that weight subject headings, titles, class numbers, and qualification metadata higher than words and phrases buried deep inside digitized texts
- Data elements that users want to see in the catalogue's brief displays of retrieved items
- Document attributes that are most useful for qualifying retrievals so that retrievals are relevant and users are intellectually prepared to understand their contents
- Qualification attribute selection routines that are easy for searchers to understand and use
- The role of citation data for searching, ranking, retrieval, relevance feedback, and display
- Ability to display and manipulate full texts, e.g., searching, navigating, underlining, note-taking, writing in the margins, sharing with peers, etc.
- Metadata assignment (i.e., tagging) procedures that encourage users to participate, perhaps by rewarding them for their assignment
- Integration of online library catalogue searching into the larger scenario of information seeking generally – Google and the Internet generally, journal searching, searching the invisible web, institutional repository searching, etc.

In the past, the library community has left decision-making to a few key individuals, advisory groups, organizations, or professional societies for reasons that deserve examination elsewhere. No longer should decisions be left to a few. First, we have the technology to be inclusive in the decision-making phase. Second, we are facing an uncertain future in which we may experience a shift in the balance from the primacy of a few large institutions, their collections, authority, and staff expertise to a federation that requires the participation of all in the creation of a new and different comprehensive whole. Third, successful deployment of shared, technology-based decision-making could set the standard for future decision-making within the discipline and inspire other disciplines to embrace the approach. Being inclusive during the decision-making process may be a necessity to secure everyone's participation during task-assignment and execution phases. Finding today's equivalent to yesterday's Bibliographic Services Development Program to support such an ambitious plan of action would certainly facilitate the building of the future online library catalogue.

Questions

1. Critically analyse the above case.
2. Write down the case facts.
3. What do you infer from the case?

Source: http://www.dlib.org/dlib/january07/markey/01markey.html

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8.9 Summary

- Library catalogue is a list of books and other reading materials available in a particular library.
- A library catalogue lets a reader know if the library has a document for which the author or the subject or the exact title is known.
- Libraries also create a number of other records of documents acquired by them.
- Library catalogues are also different from the publishers' catalogues, booksellers' lists, bibliographies, etc.
- A modern library catalogue displays the record of a library's resources with a view to make them easily accessible for study and reference; serves as a dependable tool of communication of ideas and subjects dealt with in the books to the readers who use the library.
- The custodial responsibility assumed by the libraries of the early stages obligated on them the functions of acquisition and conservation entailing also the use of some system of bibliographic control so that the items on the store could be located and retrieved.
- The primary purpose of a library catalogue is to serve as a guide to the collection of materials.
- The library catalogue might be compared to the index for a book.
- The catalogue can be your most effective reference tool.
- There are other records and tools in a library, which also serve as finding lists of reading and reference materials.
- An accession register of a library is a date wise record of reading and reference materials acquired by a library either by purchase, exchange or through gift.
- A library catalogue records, describes and indexes the bibliographical resources of a particular library.

8.10 Keywords

Accession Register: Accession register is a document which maintains the holding of the library.

Bibliography: A list of the books referred to in a scholarly work, usually printed as an appendix.

Catalogue: A catalogue describes data set attributes and indicates the volumes on which a data set is located.

Cathedrals: A cathedral is a Christian church which contains the seat of a bishop, thus serving as the central church of a diocese, conference, or episcopate.

Library: A library is a collection of information resources and services, organized for use, and maintained by a public body, institution, or private individual.

Publisher: A person or company that prepares and issues books, journals, music, or other works for sale.

Records: Document that memorializes and provides objective evidence of activities performed, events occurred, results achieved, or statements made.

Reference: Reference is a relation between objects in which one object designates, or acts as a means by which to connect to or link to, another object.

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8.11 Review Questions

1. Define Cataloguing.
2. Discuss the early stage of Library Cataloguing.
3. Write brief note on Modern Catalogue.
4. Explain the primary purpose of a library catalogue.
5. Describe the main functions of library catalogue.
6. Explain Library Catalogue as a Reference Tool.
7. Distinguish between Library Cataloguing and Bibliographical Cataloguing.
8. Write brief note on Bibliography and Publisher's Catalogue.
9. What are the levels in Cataloguing?

Answers: Self Assessment

1.	True	2.	False
3.	Bodleian	4.	1901
5.	True	6.	False
7.	Correlated	8.	Distinctive
9.	True	10.	True
11.	Records	12.	Accession
13.	True	14.	False
15.	Full level	16.	Limited

8.12 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives : Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloguing: International Perspectives, Part 1."* Routledge.

Online links

http://hcl.harvard.edu/research/guides/korean/part3.html

http://lili.org/forlibs/ce/able/course5/08purpose.htm

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http://www.oclc.org/content/dam/research/publications/library/2011/connaway-lrts.pdf

http://www.olc.org/ore/5catalog.htm

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Unit 9: Physical Forms and Types of Library Catalogues

CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Evolution of Physical Form (External Form)
- Discuss the Requirements in Physical Form
- Explain the Types of Physical Forms
- Describe the Advantages and Disadvantages of Physical Forms of Library Catalogue
- Explain the Types of Physical Forms of Library Catalogue
- Discuss the Evolution of Library Catalogues (Internal Form)
- Explain the Types of Library Catalogues

Notes

Introduction

The library catalogue is an effective and necessary tool to access the library resources. Over the years, the cataloguing has metamorphosed into various forms. The form should be suitable to the respective library and convenient for the user. The experts in the library field developed different forms of library catalogue, such as, bound register form, printed book form, sheaf form, card form, and modern forms like visible index form, microform, and machine-readable form. The purpose of this Unit is to enable the students to comprehend basic expressions.

9.1 Evolution of Physical Form (External Form)

A Library Catalogue is a record of the holdings of a library. In order to meet the requirements of users, it is prepared to consist of various units records. These records are called entries. Each entry is designed for satisfying a particular approach of a user. Entries are prepared according to a set of rules contained in a catalogue code.

Over a period of time, library experts have tried to develop different physical forms of library catalogue, such as, bound register form, printed book form, sheaf form, card form and modern forms like visible index form, microform and machine-readable form. Although some of the older forms like bound register, sheaf catalogue are slowly becoming obsolete, the card catalogue continues to be popular, particularly in countries like India.

The unit card principle that came up with the card catalogue has enabled the growth of centralised and cooperative cataloguing. Cataloguing-in-publication can also be traced to this development. Machine-readable catalogues with their versatility and efficiency are replacing the card catalogue.

These catalogues have extended the scope of centralised cataloguing and library networks. A comparative statement of the features of the different physical forms of library catalogue is given to provide an overview of the relative merits and demerits of these physical forms of library catalogue.

Notes Physical or outer form of the catalogue relates to the external shape, size, and appearance of the stationary to be used for recording entries of documents, such as cards and equipment to stock the stationary, i.e., Kardex or Card Cabinets.

The second one is the arrangement in a helpful sequence to retrieve information about documents in the library e.g., dictionary or classified catalogue. Each of these has a bearing on the other. In fact, ease of use, physical shape and size, space requirements, cost of physical production, maintenance, etc., have always influenced cataloguing over the years. Conversely, the preparation of different kinds of entries, provision of cross-references and similar other user oriented requirements of a library catalogue, have also influenced the choice of a particular physical form of a catalogue in libraries. The physical forms of library catalogues can be broadly studied under two groups: Conventional and Non-conventional/Modern.

Requirements in Physical Form

Following requirements must be kept in mind while selecting the physical form of a catalogue:

1. It should be economical to produce and maintain;
2. It should be reasonably accessible (within approach) to both users and members of the staff;

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3. It should be easy to consult and handle so that it can help the user to find entries with ease;
4. It should be amenable to fast speed of search;
5. Should be easily possible to keep it up to date;
6. It should be compact in size, so that it does not occupy much space;
7. It should be possible to bring together entries having the same heading or leading section;
8. It should be possible to consult it inside or outside a library. This consideration is related to portability;
9. It should be possible to produce it through some process of reproduction, which will enable one to duplicate the catalogue.

Self Assessment

Fill in the blanks:

1. A Library Catalogue is a record of the …….. of a library.
2. Machine-readable catalogues with their versatility and efficiency are not replacing the …… catalogue.
3. The physical form of a catalogue should be ……..to produce and maintain.
4. The physical form of a catalogue should be possible to bring together ……..having the same heading or leading section.

9.2 Types of Physical Forms

Following are the categories of physical forms of a library catalogue:

- Online catalogue,
- Microform catalogue,
- Card catalogues, and
- Book catalogues.

All these have some benefits and limitations. Therefore, while taking a decision regarding whether a library uses any kind of a catalogue or not. For that some conditions should be made.

Example: The library catalogue should be up to date and flexible so that it may easy to produce in multiple copies, can be used easily along with it may cope up with the changing library collection.

As with the help of catalogue, you can easily find out the record in the library, entries should be removed and added as a certain material is discarded, removed or added from the library.

Self Assessment

State whether the following statements are true or false:

5. All the categories of physical forms of a library catalogue have some benefits and limitations.
6. With the help of catalogue, you cannot easily find out the record in the library.

9.3 Advantages and Disadvantages of Physical Forms of Library Catalogue

Notes

The types of physical form of a library catalogue are: book catalogues, card catalogues, microform catalogue and online catalogue. Any kind of these types has advantages and disadvantages. Thus, in deciding whether a library uses any type of a catalogue, certain considerations should be made. The library catalogue should, for example, be flexible and up-to-date to the changing of library collection; easy to use; and easy to produce in multiple copies. Since the catalogue is a record of what is available in the library, entries should be added or removed as a certain material is added, removed or discarded from the library.

The printed book or book catalogue is the oldest type of catalogue which was commonly used in American libraries. The characteristic of this type was expensive to produce and quickly became out of date or inflexible in changing of the collection. The libraries using this type should provide more copies; this is due to provide access for more users. Thus this type was gradually replaced by card catalogues.

However, with the more modern, cheaper methods of printing and with the advent of automation for quicker cumulation that the book catalogue again became popular in certain type of libraries. It is produced in more modern production techniques, such as by National Library of Medicine, the Library of Congress, and the New York Public Library. This catalogue is easy to be sent to other libraries or information agencies.

The card catalogue is the library most often found in the worldwide. Each entry is prepared on a standard 7.5 × 12.5 cm. card. These cards are then filed in alphabetically order by author, subject, title, or call number in the drawers to provide access to the collection. The card catalogue is very flexible; it can be easily added or removed whenever necessary. Changing can be made on cards and they can be refilled. It can be provided by references. In large library, however, filing a large of new entries takes a long time and, of course, it needs more spaces. Other disadvantages are any changing is made manually and the users tend to manipulate the trays or drawers, so that other users may have to wait them.

Microform catalogues have become much more popular with the development of Computer-Output Microform (COM). COM catalogues are produced in microfilm or microfiche. It provides a complete data of library holding which is periodically updated. Both book and COM are inflexible in changing; they cannot be added or deleted until the new editions are produced. But, by which they are computer-produced, they are flexible in making changes of entries. With a certain command can be made to change many entries.

Caution To meet the users demand, COM should be made in many copies. They are also easy to be sent to other libraries or information agencies.

The online catalogue is the newest. The bibliographic records stored in the computer memory are printed on the video screen in response to a request from a user. Entries may comprise the full bibliographic record, or medium, or only a brief, it is depending on the system and/or the desires of the users.

Online catalogue is the most flexible and current. Additions, deletions, and changes of entries can be made at any time, and the results are immediately available to the users. However, it is quite expensive to build up compared with other three types.

The primary advantage of the online catalogue is that database can be searched in almost any item of information of interest to the users or the users can retrieve information in a variety of

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ways, and it provides very rapid search. Other advantages are, such as: it can be used from far away location, so that the users can access a local, national and international cataloguing database; filing of indexes is no longer a consideration; database in online catalogue can be updated online or at frequent intervals, as needed; provided instructional help; provided links to card form catalogues, reference help and circulation; online database, with a certain instruction in the system, can be produced in any other physical form of catalogues; and global changing can be made.

However, some of the disadvantages are, for example: it is much more sensitive in spelling, any error means unexpected or different information is printed on the computer screen; its users may be frustrated by getting a quite few citations or sometimes too many citations; it requires a new way of getting information, or training for its users; and it will be unavailable if there is no power or if the computer breaks downs.

Self Assessment

Fill in the blanks:

7. The ……..book or book catalogue is the oldest type of catalogue which was commonly used in American libraries.
8. ……catalogues have become much more popular with the development of computer-output microform (COM).

9.4 Types of Physical Forms of Library Catalogue

The specific features, the relative advantages, and disadvantages of each form are described below:

9.4.1 Bound Register/Ledger Form

In this form, the entries of documents in a library are written by hand in a bound register or ledger; pages are set apart for different alphabets. Entry arrangement is alphabetical in nature. Minimum information about the document, such as the author, the title, the edition, the accession number and the class number is given for each book. There may be a separate register for authors or titles or subjects. This form of the catalogue was in use over a long period of time. According to S. Ranganathan this was replaced by the paste-down form to incorporate new entries and maintain correct sequence. Typed/cyclostyled form is the revised version of the bound register form that came into existence due to the typewriter and cyclostyling machine.

Did u know? It is possible to generate multiple copies from typewriter or cyclostyling machine.

Advantages of Bound Register

(a) It is cheaper, simple, and easy to handle or consult.

(b) Many entries can be found on one page. Hence, few pages are required for this catalogue. Some space or pages are left at the end of an alphabet to accommodate new entries.

(c) It is suitable for small public school and college libraries.

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Disadvantages of Bound Register

(a) It is not flexible. Entries for new books added cannot always be inserted at their proper places as the left out space is filled shortly.

(b) Pages in the register get torn due to constant handling. Hence, new updated registers are to be prepared continuously.

9.4.2 Printed Book Form

These types of library catalogues are prepared conforming to all the standard principles and rules of cataloguing, with cross reference and multiple entries. In the 19th century, the most common physical form of a library catalogue was the printed book form. Especially, some of the big libraries like British Museum Library (now renamed as the British Library), the Library of Congress, National Library Calcutta, printed their catalogues in the book form. To keep the catalogue updated, they used to issue supplements to these catalogues at regular intervals, e.g., the catalogue of the Royal Asiatic Society Library, Bombay was kept up-to-date in this way.

Advantages of Printed Book Form

(a) The catalogue can brought out in multiple copies in desired numbers, and can be priced and sold.

(b) Library users can refer to the catalogue at their leisure at their home or work place and need not come to the library just to find out whether the library processes a particular book of their choice.

(c) It is easier to consult a book catalogue, as there are many entries on one page.

(d) It does not occupy much space and is easy to handle.

(e) The catalogue can be issued subject-wise thereby catering to the needs of different subject groups of users.

Disadvantages of Printed Book Form

(a) It is costly to bring out printed catalogues.

(b) It takes more time to prepare the press copy.

(c) It becomes out-dated by the time it is out of press. Preparing a print ready copy for the press takes a considerable amount of time and effort and the items acquired for the library during this period cannot be included, resulting in numerous supplements. Consulting all these supplements is tedious and time-consuming.

(d) At a given point of time, the cataloguer cannot indicate the complete collection.

(e) It is not flexible. Insertion of entries for new books or deletion of entries for lost books is not possible.

(f) It is necessary to have qualified staff with the knowledge of cataloguing and printing process.

(g) The computerized printouts of a library catalogue are a near substitute of a printed book catalogue.

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9.4.3 Sheaf or Loose-leaf Form

A sheaf form of catalogue is one in which slips of paper are put into a loose-leaf binder and bound by some mechanical device into a volume. It provides the convenience of handling a book. As each entry is made on a separate slip; new slips can be inserted in appropriate places without disturbing the existing order of arrangement of entries. Roughly, each volume of a sheaf catalogue may contain about 500-600 leaves. It may be displayed on special shelves with appropriate labels on their spines, indicating the order (either alphabetical or classified) of arrangement. At one time, this form of catalogue became somewhat popular in countries like England and other European countries.

Advantages of Loose-leaf Form

(a) It is adjustable and portable which makes it easy to consult from any part of the library.

(b) Its flexible nature renders it convenient to insert or delete entries as and when required.

(c) It can be kept updated without much difficulty.

(d) It is more compact and occupies less space.

Disadvantages of Loose-leaf Form

(a) Generally one slip is used to record the particulars of one document only. This leads to wastage of space on slips, which are larger in size.

(b) If details pertaining to more than one document are entered on a single slip, it becomes necessary to rewrite the entire page.

(c) Libraries using sheaf catalogue cannot participate in any cooperative cataloguing scheme or use facilities such as distribution of unit cards to minimize their cataloguing work.

(d) The catalogue has to be consulted in the library premises only. It is not possible to bring out multiple copies of this catalogue.

(e) There can be a loss of slips due to mishandling by readers.

9.4.4 Card Form

Library catalogue in the card form became the most popular physical form as it overcomes the inconvenience in handling the small leaves and subsides many of the disadvantages in other physical forms. In this form, the bibliographical elements of every document are recorded on a single card. These cards stand in card-trays or cabinets with the help of a locking rod inserted through a hole near the bottom of the card. This locking system keeps the card from falling out, and prevents unauthorized persons from removing any card from the tray.

Did u know? The cabinets trays for a card catalogue have a uniform standard size to accommodate the cards of dimensions 12.5 × 7.6 cm.

The method of representing complete bibliographic detail of a document on a single card is known as the unit card system. This principle paved the way for centralised cataloguing of documents. The printed cards can be multiplied and distributed to other libraries at fairly low price. The Library of Congress was the pioneer in this enterprise and started this card service to many libraries in the Unites States and other countries. The well-known commercial bibliographic publisher, H.W. Wilson and Co., also provides printed catalogue card service to libraries for selected items.

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Centralized cataloguing initiated the publishing of bibliographic entries of documents on the reverse side of the title page, which is referred to as Cataloguing-in-Publication (CIP). Dr Ranganathan called it as "Prenatal Cataloguing." This facility enables the libraries to use the bibliographical data available on the books for the preparation of their catalogues. The Library of Congress and the British National Bibliography have been participating in the CIP programme from January 1977.

Notes Cooperation in compiling bibliographic records is another extension of centralised cataloguing. The participating libraries in cooperative cataloguing provide the catalogue entries to the central library if they are not available.

Advantages of Card Form

(a) It is flexible, i.e., it can be constantly updated.

(b) The users and the library staff can handle it with ease.

(c) The cards are single, self-contained units. These features permit additional approach and cross references in the catalogue.

(d) The libraries using the card catalogue can participate in central and cooperative cataloguing scheme. This reduces the burden of the staff.

Disadvantages of Card Form

Though the card form of library catalogue is universally accepted, it also suffers from some disadvantages:

(a) The card catalogue occupies large space in libraries. The problem of space is very acute in large libraries located in metropolitan cities. Libraries with a massive collection running into lakhs of documents with an annual addition of 10,000 volumes would need enormous space for their card catalogues. The cost of space is prohibitive in metropolitan cities and this has been a deterrent against continuing with the card catalogue in such libraries.

(b) The growth and complexity associated with the card catalogue calls for greater maintenance costs.

(c) Due to inherent defects associated with the structure of a card catalogue, it is possible for a single person to monopolize a considerable number of trays at a time, precluding its use simultaneously by other users.

(d) It is not portable and hence the user has to go to the library for consulting it. This naturally leads to wastage of time, particularly if the library does not possess the documents of user's interest.

9.4.5 Visible Index Form

This form of catalogue is extensively used in libraries attached to business and industrial houses. In Indian libraries, however, its use is limited.

Visible index catalogue consists of strips mounted on a frame or cards held flat, hinged with a certain depth of visible edge. The cards are usually of the size 12.5x20 cm and inserted into a hinged Kraft pockets. These pockets are held in a specially prepared steel cabinet. Such steel cabinets are available under the trade name Kardex. These are generally used for maintaining

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records pertaining to current periodicals. Chaindex and Stipdex are other known but less used versions of these commercially available equipments.

9.4.6 Microform Catalogue

Catalogue entries are converted into microforms viz. microfilm, microfiche that cannot be read by naked eyes and need special machinery to read the images in microform. The microform reader magnifies the reduced images on the film or fiche and projects them onto a screen. Microform catalogues are the output form of computerized cataloguing systems. These forms have been used extensively in the production of library catalogues since the early 1970s.

Advantages of Microform Catalogue

(a) Microform catalogues are compact and occupy less space in libraries. The space requirements of microform catalogues arise mainly because of space for microfilm or microfiche readers.

(b) These are portable and accessible to users depending upon the number of copies of catalogues and machines available.

(c) Multiple copies of these catalogues can be prepared easily and inexpensively.

(d) These catalogues are very easy to use and maintain.

Disadvantages of Microform Catalogue

(a) Microform catalogue cannot be used without microform readers.

(b) They also require special care and protection.

(c) They are useful only in very large libraries where massive data has to be stored and retrieved. Microforms may not be that much useful in a medium or small library.

9.4.7 Machine-readable Catalogue

With the increasing use of computers and network communications, many standards have been developed to suit the changing cataloguing practices, which have been universally acknowledged and adopted. In machine-readable form, catalogue entries are rendered in a format that permits input in computer memory for manipulation. MARC, UNIMARC, CCF are standard formats used as a carrier of information between computers located at different locations. Catalogues can be searched either offline or online. Offline search means that the computer can be used only at certain times.

Did u know? At the available computer time, search must be made for collection or batch of enquiries.

Online systems, however, can link directly to the computers that can be used immediately or at any time for processing enquiries and searching. There are three major computer-produced physical forms of library catalogues, which are relevant to offline access. These are:

- ***Printed form:*** Entries are printed in conventional book format and are available in multiple copies.
- ***Card form:*** Each entry is transferred to one or more cards of standard catalogue card and is filed just as in a conventional card catalogue.

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- *Microform:* Entries are transferred to microform or microfiche, and are used with appropriate microform readers.

These forms they are no more than the conventional catalogue forms, the only difference being their mode of production. In an online catalogue, the entries are held in computer files and can be projected on the screen or printouts can be obtained. The computer configuration needed for machine-readable catalogue is:

- A computer with keyboard and display units
- Secondary storage facility
- Sufficient user terminals wherever necessary

The machine-readable catalogue performs all the functions of a library catalogue with greater efficiency and speed than any other form. As a result of rapid development in computer and communication technologies, a number of libraries in the world are switching over to computer readable catalogues and in the process, several online catalogue networks have been developed and are available for public access in libraries. Since last decade the computer readable catalogues has become a common feature of most of the library services in India.

Advantages of Machine-readable Catalogue

(a) It can be kept updated with speed and efficiency

(b) It can search for any bibliographical element, such as author, subject, publisher, series

(c) It is user friendly

(d) It can easily be multiplied

Computers can store and sort catalogue entries automatically and the output can be utilized in a number of ways. Alternatively, the output on magnetic tape may be used as the catalogue to access entries directly and one can search and know from it the availability of any document in a library.

Disadvantages of Machine-readable Catalogue

Computerised catalogue needs trained manpower to design and operate machine-readable catalogues. Users should be tuned to the computerised systems to exploit fully the capability of a machine-readable catalogue.

Self Assessment

State whether the following statements are true or false:

9. Typed/cyclostyled form is the revised version of the bound register form that came into existence due to the typewriter and cyclostyling machine.

10. A Visible index catalogue is one in which slips of paper are put into a loose-leaf binder and bound by some mechanical device into a volume.

9.5 Evolution of Library Catalogues (Internal Form)

The library catalogue (internal form) has undergone with several modifications keeping pace with the variations in the conception of service to users. The description regarding the history of internal form of catalogue is related to the concepts which are given by Dr. Ranganathan.

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Libraries were treated as mere depositories for a long time where books were mainly kept for preservation. The Catalogues were made so as:

- To serve as inventory of library, and
- Listing its holdings.

The catalogue comprised of the title-a-line category, where books were named in the assenting order. According to accession order, books on the shelves were also staged. Both the arrangements were parallel. In the next phase of development, the library started to be treated as a service institution. Gradually, the preservation idea started to be substituted by the service spirit. Title-a-line entries commenced to be ordered in the alphabetical manner which is based on the authors' names. In the following phase of development the importance of the subject approach of the users started to be made. In order to take care of the subject approach, the single alphabetical order was substituted by as numerous sequences as the number of broad classes into which the universe of subjects was fractioned so that one sequence must match to one broad class. Perhaps this was succeeded by adoption of the shelf register approach. Shelf register must sustain in the catalogue cards form, along with the lists cards which are in an order that are parallel to arrangement of books on the shelf. Therefore, the title-a-line entries were named in an order which is parallel to the order of the books on the shelf. The next phase led to the dictionary catalogue development, comprising of entries of several forms that are ordered in a single sequence, and thus satisfy the several approaches, comprising the subject approach. The next phase of development of the library catalogue, according to Dr. Ranganathan, led to the catalogue division into two forms which are on the basis of the divergences of function.

Caution One part comprises number entries that are ordered by number as well as the second part comprises of word entries which are arranged alphabetically such as a dictionary.

Closely related to the physical forms is the inner foul' a library catalogue, which determines the qualitative functions of the catalogue. The inner for of a library catalogue refers to the arrangement of catalogue entries in a logical and systematic order to fall into a helpful sequence for storage and retrieval.

The cataloguing process comprises two operations. The first is the creation of varieties entries for documents acquired by a library. The second is the organisation of these entries in a logical and helpful order for storage and retrieval.

In this section, we are concerned only with the file organisation of catalogue entries. While there are many ways of arranging these entries in a helpful order, the three currently existing systems are:

- Alphabetical files
- Classified files
- Alphabetico-classed files

Alphabetical catalogue can be separately designed and constructed for authors, titles, names recording works on and by authors, subjects or all entries of authors, titles, subjects, etc. in one single alphabetical file, known as the dictionary catalogue. In classified files, the main entries are arranged according to the class number of the classification scheme chosen for the shelf organisation of documents in a library. This file is supported by an alphabetical index.

Task With six examples of your own, illustrate how the distributed relatives get collected in one place in a dictionary catalogue.

Self Assessment

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Fill in the blanks:

11. Libraries were treated as mere ……..for a long time where books were mainly kept for preservation.
12. The cataloguing process comprises …….operations.

9.6 Types of Library Catalogues

Following are the types of Library Catalogues:

9.6.1 Author Catalogue

In an author catalogue, the entries of documents are under authors' name and are arranged alphabetically. In other words, the leading section of an author catalogue would be the name of an author. An author is generally a person or a corporate body who is responsible for the thought contents of the document brought out under the name. Listing of personal names of authors varies greatly because of the cultural traditions in the naming of persons in different regions of the world. For example, names of persons in western countries, Indic names, Muslim names, Chinese and Japanese names have their own traditions, which part of the names should be taken as the lead in a catalogue has been set by cataloguing codes and there are established practices. There are also a variety of corporate bodies under whose names documents are published. Although we are not concerned very much with rendering of names in catalogue entries here, it is important to note that their filing position is determined by these names. Inaccuracies in the rendering of names would seriously affect the alphabetical arrangement of entries in the catalogue.

Libraries may have author catalogues arranged in three different ways. (a) There may be an exclusive author catalogue without mixing it with any other entries such as titles, subjects, series, etc. (b) Author entries may form part and parcel of a dictionary catalogue. (c) Author entries may form part of the alphabetical index of a classified catalogue. Irrespective of the form in which an author catalogue exists, it provides an important approach to a library catalogue, as it fulfils an essential function of a catalogue. If the user approaches the catalogue with the correct name of an author, the catalogue immediately gives the person all the documents by the author. To help a user, the other variants of a name of an author are usually provided as cross-reference in a catalogue.

The advantages of an author catalogue are that it brings together the titles of books of the same author at one place in the catalogue. This helps a user to obtain at a glance what books are available in the library by a given author. This function, can, however be fulfilled by author entries in other inner forms of a library catalogue. In a classified catalogue this function is performed by the alphabetical index or dictionary part.

The catalogues of the British Museum Library (now the British Library), the Library of Congress, the National Library of India are some of the fine examples of author catalogues.

9.6.2 Name Catalogue

A name catalogue is a variation and extension of an author catalogue. It contains entries for works of an author and also for books written on him. All entries are arranged alphabetically by

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the name of the author. In other words, a name catalogue is a mixed type of catalogue which combines the author and subject entries (the subject entries representing the author as a subject) into one alphabetical sequence. In this type of catalogue, biographies and other critical studies of an author are arranged along with his original works. The author entries include:

- Corporate authors, both as an author as well as a subject
- Name series
- Place name forming part of an author heading

The following examples, exemplify these points:

Person as an Author

- ***Nehru, Jawaharlal:*** Discovery of India
- ***Nehru, Jawaharlal:*** Glimpses of World History
- ***Nehru, Jawaharlal:*** Towards Freedom: Autobiography of Jawaharlal Nehru.

Persons as Subject

- Jawaharlal Nehru, a Political Biography by F. Moraces
- ***Jawaharlal Nehru:*** a Biography by S. Gopal
- ***Nehru:*** the Making of a Nation by M. J. Akbar

Name Series

- Oxford historical series
- Madras University Sir C.P. Ramaswami Ayer
- Endowment Lecture Series

Place Name

- Bombay University
- Calcutta University

Name catalogue serves as an author catalogue and also as a subject catalogue as far as the author as a subject is concerned. Any reader interested on the works by or on an author may find this type of catalogue very useful to find specific material of his interest. In this type of catalogue, one can find the works of Rabindranath Tagore as well as works on him arranged in a single alphabetical order under Tagore.

Name catalogue seems to be almost confined to Great Britain. Such a catalogue, outside Great Britain appears to be rare. The Catalogue of the British Museum Library (now the British Library) is near name catalogue which includes references from all names that occur in titles.

9.6.3 Title Catalogue

In a title catalogue, the titles of documents occupy at the leading section of entries, which are arranged in an alphabetical order. Queries of readers who remember only the exact title of the book can be answered with the help of a title catalogue. However, it is noticed that many of the readers do not spell out a title exactly the way it appears on the title page, particularly non-fiction titles. To fulfil title approach of readers, entries can he selectively provided in catalogues of public libraries for fiction and for those that are well-known by their titles.

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9.6.4 Subject Catalogue

In an alphabetical subject catalogue, entries are made under the name of the specific subjects of documents. Irrespective of their affiliations, specific subject entries are strictly arranged in an alphabetical order. The fundamental rule of entry in an alphabetical specific subject catalogue is to enter a work under its specific subject. For example, a book on 'Roses' will be entered under 'Roses' and not under 'flowers' or 'Botany', which are broader than 'Roses'. Ranganathan defines a specific subject of a document as that division of knowledge whose intension and extension are equal to its thought contents.

Example: According to him, the specific subject of 'Teaching chemistry in secondary schools in Delhi' would be 'DELHI, CHEMISTRY, TEACHING TECHNIQUE, SECONDARY SCHOOLS, EDUCATION' and not the way it is given in the heading.

In almost every type of library, the predominate requests for documents are by their subjects. Hence extensive provision must be made to give adequate representation to subjects of documents, with a considerable number of cross-references, directing the user to the various aspects of a subject.

While the alphabetical specific subject catalogue provides comparatively easy approach to the catalogue by arranging subjects in alphabetical order, it scatters related subjects. Depending on the incidence of the letter of the alphabet, it disperses entries pertaining to related subjects throughout the catalogue. In fact, one has to refer to a number of subject headings to get a full view of the ramifications of a subject.

9.6.5 Dictionary Catalogue

The general meaning of the word 'dictionary' is that it is a reference book, giving information on particular subjects or on a particular class of words, names, or facts, usually arranged alphabetically, for example: a biographical dictionary. The dictionary catalogue derives its name from this general meaning of the word 'dictionary'. A dictionary catalogue gives information about documents available in a library with reference to their authors, titles, subjects, etc. All the entries get arranged in a single alphabetical order. It resembles arrangement of entries as in a natural language dictionary in which all words, irrespective of their origin, parts of speech (nouns, verbs, adjectives, adverbs, etc.), usage, etc. are arranged in one single alphabetical order. A more formal definition of a dictionary catalogue is that it is 'a catalogue usually on cards, in which all entries - author, title, subjects, series, etc., and their relatives are arranged together in one general alphabet" (Anglo-American Cataloguing Rules II).

As mentioned above, a dictionary catalogue consists of four different groups of entries, each containing different types of bibliographical elements. The first group comprises authors and collaborators (editors, translators, commentators, etc.); the second group is composed of title entries. The third group is made up of subject entries. The fourth group consists of cross-references of different kinds. But all these groups fall in one single alphabetical order. All these entries are called word entries.

Notes Some libraries prefer to display the dictionary catalogue in two separate parts: the first part containing author and title entries with cross references, if any, and the second part is reserved exclusively for subject entries with cross references. This is called 'divided catalogue'. This type of separation poses some problems for users, as they have to refer to both these parts located at different places, to find out the information for a document of their interest.

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Although the dictionary catalogue is quite popular and widely used in libraries, it has its merits and demerits. Let us discuss these.

Merits of Dictionary Catalogue

(a) Its alphabetical arrangement is easy and simple to use. Anyone knowing the letters of an alphabet and being able to refer a dictionary can find his/her references without any difficulty.

(b) The works of the same author, different editions of the same title, translations of a work in different languages, all such related entries can be brought together in a dictionary catalogue. This indeed is a great facility for users.

(c) Subjects that are related but get distributed in a classified catalogue are brought, together in a dictionary catalogue. For example, documents on `roses' with reference to cultivation, decoration, extraction of rose essence for making perfumes and scents, rose garden, rose competition, artificial roses, etc. get distributed in a classified catalogue as they are classified under different classes. But in a dictionary catalogue all these distributed relatives are brought together, making it possible for users to get all the information on roses in one search. These are, in fact, classified pockets in a dictionary catalogue.

(d) In a dictionary catalogue, subjects are entered under their specific names as such there is no need for a user to know facet relations of subject to use the catalogue. A straight search under a specific heading of a subject would fetch a reader the necessary information.

(e) New subject headings e.g., artificial intelligence can be inserted in a dictionary catalogue without waiting for any authority list or standard subject headings to incorporate into it.

(f) All types of relationships between subjects such as hierarchical (broad and narrow terms) associative (related terms), synonyms and homonyms, etc., can be shown in a dictionary catalogue by appropriate cross references.

Demerits of Dictionary Catalogue

The alphabetical arrangement of entries in one sequence is at once the strength and weakness of a dictionary catalogue. The subject entries get scattered in it, making it difficult for a user to get a full view of the ramifications (divisions and subdivisions) of a subject. Further, sometime a user moves from pillar to post in search of his entries. In order to get over this problem, a number of cross-references are provided which makes the catalogue bulky. But with all these limitations, many libraries use the dictionary catalogue all over the world.

Task With ten examples of subject headings, illustrate how an alphabetical subject catalogue scatters related subjects.

Self Assessment

State whether the following statements are true or false:

13. In a name catalogue, the entries of documents are under authors' name and are arranged alphabetically.

14. In an alphabetical subject catalogue, entries are made under the name of the specific subjects of documents.

15. The alphabetical arrangement of entries in one sequence is at once the strength and weakness of a dictionary catalogue.

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Case Study

User Experience in the Library

Current systems in libraries fall short when the user experience that they provide is compared with that of popular services on the Web. However, libraries are better equipped to satisfy user needs when it comes to other criteria, such as the quality and relevance of their collections, the rich metadata they offer for accurate searching, the services they can tailor for their users, and the control over the overall workflow, terminology, and look and feel of their application. By leveraging their unique qualities and providing a better user experience, libraries are likely to offer discovery and delivery services that will best suit the users' expectations and needs.

Implementing new end-user interfaces for systems in the library is not a simple task and cannot be successfully achieved by only making improvements to current interfaces. The first problem is that today's library systems are inherently librarian centric; their design in terms of data structures and workflows is focused on library administration and hence severely limits the possibilities for the end-user interface. Second, existing library collections are fragmented, offered by multiple library systems, each of which focuses on specific types of materials – physical items, locally digitized materials, remote e-journal collections, or others. Hence, libraries cannot present a unified entry point to their many types of offerings, unless an interface that overarches the multiple library collections is implemented.

Several stakeholders – libraries and vendors – have embarked on a path toward creating a better user experience (see Sadeh, 2007). The library solutions deriving from this new path are based on "decoupled" architectures: whereas existing systems in the library, such as the integrated library system and digital asset management system, will continue to serve librarians as management tools, the user-experience layer is developed as a separate platform. In a recent posting on his blog, Lorcan Dempsey explains that "the discovery experience does not have to be tied to the inventory management system… Discovery of the catalogued collection will be increasingly disembedded, or lifted out, from the ILS system, and re-embedded in a variety of other contexts" Several stakeholders – libraries and vendors – have embarked on a path toward creating a better user experience (see Sadeh, 2007). The library solutions deriving from this new path are based on "decoupled" architectures: whereas existing systems in the library, such as the integrated library system and digital asset management system, will continue to serve librarians as management tools, the user-experience layer is developed as a separate platform. In a recent posting on his blog, Lorcan Dempsey explains that "the discovery experience does not have to be tied to the inventory management system… Discovery of the catalogued collection will be increasingly disembedded, or lifted out, from the ILS system, and re-embedded in a variety of other contexts".

This decoupling not only provides the capability to create a better user experience for a given collection but also unifies the discovery processes across heterogeneous collections. The new solutions can harvest data from multiple repositories and create a single index. As Dempsey puts it, "…there will be a growing desire to hide boundaries between databases (A&I, catalogue, repositories, etc.) in some cases – especially where those boundaries are seen more to reflect the historical contingencies of library organization or the business

Contd....

Notes

decisions of suppliers than the actual discovery needs of users". However, although these new solutions can harvest and pre-process some of the collections, thus optimizing the search in such collections, libraries will still need to provide seamless access, through remote searching, to resources that are not necessarily harvestable – either because of licensing restrictions or because of the library's policies or technological capabilities. Dempsey indeed envisions that "we will see greater integration of the catalogue with these other resources, whether this happens at the applications level (where the catalogue sits behind the resolver, or is a metasearch target), or at the data level (where catalogue data, article level data, repository data, and so on, are consolidated in merged resources)." The North Carolina State University (NCSU) Endeca-based catalogue was the first system to go live with what the NCSU library refers to as a new catalogue built on decoupled architecture. Other solutions, such as the Primo system from Ex Libris and AquaBrowser® Library from Medialab Solutions, adhere to the same kind of architecture.

When describing the new-generation end-user interface, vendors and librarians use expressions that vary from "visual faceted search that connects to any number of data sources" (AquaBrowser, from Medialab Solutions) to "a new product…that brings together content, community, and discovery in a single search" [Encore, from Innovative Interfaces); a "new online catalogue [that] provides the speed and flexibility of popular online search engines while capitalizing on existing catalogue records" (NCSU Endeca-based catalogue); and "one-stop solution for the discovery and delivery of local and remote resources" (Primo, from Ex Libris). Although these products differ in many aspects, the basic functionality that they offer to users is similar. The process of searching for and locating scholarly materials is the pivot around which the user experience is built. This discovery process is accompanied by a delivery mechanism to complete the user's quest for information. In addition, the system provides related services to enable users to save queries, set alerts, store records in various formats in the system or elsewhere and set their preferences.

The main challenge in designing an effective search process is to create an interface that is as familiar and intuitive as the ones employed by Web search engines and other Internet tools but that serves the user better. Such an interface would yield results that are more appropriate to the user's needs and would offer immediate gratification by making items readily available in a variety of ways; these could include, for example, providing links to electronic materials, showing the locations where the user can pick up physical items, and enabling the user to submit requests related to items of interest. The success of a search process depends on several factors: the research data available to the user, the search engine, the search interface, the user who initiates the process, and the order in which the results are returned. This section discusses these factors and, using the Ex Libris Primo discovery and delivery solution, illustrates ways of addressing them.

Question

What are the problems in implementing new end-user interfaces for systems in the library?

Source: http://www.exlibrisgroup.com/files/Publications/Userexperienceinthelibraryacasestudy.pdf

9.7 Summary

- Over the years, the cataloguing metamorphosed into various forms.
- A Library Catalogue is a record of the holdings of a library. In order to meet the requirements of users, it is prepared to consist of various units records.
- These catalogues have extended the scope of centralised cataloguing and library networks.

Notes

- The types of physical form of a library catalogue are: book catalogues, card catalogues, microform catalogue and online catalogue.
- The card catalogue is the library most often found in the worldwide.
- A sheaf form of catalogue is one in which slips of paper are put into a loose-leaf binder and bound by some mechanical device into a volume.
- Library catalogue in the card form became the most popular physical form as it overcomes the inconvenience in handling the small leaves and subsides many of the disadvantages in other physical forms.
- Centralized cataloguing initiated the publishing of bibliographic entries of documents on the reverse side of the title page, which is referred to as Cataloguing-in-Publication (CIP).
- Visible index catalogue consists of strips mounted on a frame or cards held flat, hinged with a certain depth of visible edge.
- With the increasing use of computers and network communications, many standards have been developed to suit the changing cataloguing practices, which have been universally acknowledged and adopted.
- The catalogue comprised of the title-a-line category, where books were named in the assenting order.
- Closely related to the physical forms is the inner foul' a library catalogue, which determines the qualitative functions of the catalogue.
- Basically all these different types of physical forms of library catalogues were developed to suit the functions of specific library and the convenience of the user.
- These include conventional forms like bound register, printed books, sheaf or loose-leaf form, and card form.
- Modern form like visible index, microform, and machine-readable forms along with their advantages and disadvantages are discussed in detail.
- The usage of computer and telecommunication technology has changed the entire cataloguing process as well as the physical production of catalogues.
- The efficiency and speed in dissemination of information from modern machine-readable catalogue is much more than the traditional form of catalogues.
- The different features of the various physical forms of library catalogue are given separately for doing the comparative study.

9.8 Keywords

Author Catalogue: In an author catalogue, the entries of documents are under authors' name and are arranged alphabetically.

Bound Register/Ledger Form: In this form, the entries of documents in a library are written by hand in a bound register or ledger; pages are set apart for different alphabets. Entry arrangement is alphabetical in nature.

Card Form: Library catalogue in the card form became the most popular physical form as it overcomes the inconvenience in handling the small leaves and subsides many of the disadvantages in other physical forms.

Notes

Library Catalogue: A Library Catalogue is a record of the holdings of a library. In order to meet the requirements of users, it is prepared to consist of various units records.

Machine-readable Catalogue: In machine-readable form, catalogue entries are rendered in a format that permits input in computer memory for manipulation.

Microform Catalogue: The microform reader magnifies the reduced images on the film or fiche and projects them onto a screen.

Name Catalogue: A name catalogue is a variation and extension of an author catalogue and contains entries for works of an author and also for books written on him.

Printed Book Forms: These types of library catalogues are prepared conforming to all the standard principles and rules of cataloguing, with cross reference and multiple entries.

Sheaf or Loose-leaf Form: A sheaf form of catalogue is one in which slips of paper are put into a loose-leaf binder and bound by some mechanical device into a volume.

Title Catalogue: In a title catalogue, the titles of documents occupy at the leading section of entries, which are arranged in an alphabetical order.

9.9 Review Questions

1. List the conventional physical forms of a library catalogue and describe any two of these.
2. Group the following into outer and inner form of catalogue: Kardex, classified catalogue, dictionary catalogue, card cabinets.
3. Compare the disadvantages of a printed book form of catalogue with that of a ledger form of catalogue.
4. Explain the different physical forms of library catalogues along with their relative advantage and disadvantages.
5. What requirements must be kept in mind while selecting the physical form of a catalogue?
6. Discuss the advantages and disadvantages of physical forms of library catalogue.
7. Define sheaf form of catalogue.
8. Write brief note on Machine-readable Catalogue.
9. Explain the evolution of internal form of library catalogue.
10. Describe Dictionary Catalogue.

Answers: Self Assessment

1. Holdings
2. Card
3. Economical
4. Entries
5. True
6. False
7. Printed
8. Microform
9. True
10. False
11. Depositories
12. Two
13. False
14. True
15. True

9.10 Further Readings

Notes

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://en.wikipedia.org/wiki/Library_catalog

http://skuastkashmir.ac.in/index.php?option=com_content&view=article&id=200

http://www.worldcat.org/title/performance-of-four-physical-forms-of-catalogue-user-times-and-success-rate-for-catalogues-on-com-fiche-cassetted-com-rollfilm-printout-and-card/oclc/215400474

http://livinginthelibraryworld.blogspot.in/2008/11/introduction-to-libraries-types-of.html

http://widodo.staff.uns.ac.id/2009/03/05/advantages-and-disadvantages-of-the-difference-physical-forms-of-the-library-catalogue/

Notes

Unit 10: Subject Heading List

CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Need and Purpose of Subject Heading
- Discuss the Theoretical Basis of Subject Heading
- Explain the Problems in Subject Heading
- Describe the Types of Subject Headings

- Explain the Methods of Deriving Subject Headings
- Discuss the Use of Subject Headings

Notes

Introduction

Access problems such as these have, over time, spurred the use of subject headings that indicate the topics covered by materials in the library. Because consistency is an important issue when providing access to information in a library catalogue, there have been a small number of very comprehensive and regularly updated subject lists developed for use in libraries. The two most commonly used lists for public, academic and school libraries are Sears List of Subject Headings and Library of Congress Subject Headings. These lists were developed to try to cover most known topics in a consistent manner, enabling libraries to provide access to materials on similar subjects under one consistent term.

10.1 Need and Purpose

In this, when looking at subject headings, we will be using examples from the Library of Congress Subject Headings list. Many libraries use authority for their subject headings because it is the one most commonly used in creating the MARC records that are shared through cataloguing databases such as OCLC. Sometimes when items are catalogued by the Library of Congress they will also be given subject headings from the List of Subject Headings. However, the most commonly used subject headings list in the United States is currently the one from the Library of Congress. This section will be a short review of the use of subject headings, looking particularly at the ones that might be of use when cataloguing music sound recordings.

The purpose of using a subject heading in a cataloguing record is to give the person searching for items in the library a way to find information by the topics that are covered in those items. Subject heading lists are used to provide consistency in the terms used to describe the subjects or topics covered by the materials in the library. Having an already established listing of subject heading terms means that the cataloguer does not need to think of what word to use to describe the topic of the item being catalogued – the correct word or phrase is chosen from the list being used, and consistency is provided for all items on the same topic in the library.

Caution As a reminder, traditionally when cataloguing items for a card catalogue, a limit of 1-3 subject headings was imposed to limit the number of card sets and cards that would need to be typed and filed into the catalogue.

With the option of entering information into computer catalogues, these restrictions no longer apply, and cataloguers are free to use the number and variety of headings that seem appropriate to their collections and patrons needs.

The most commonly used type of subject heading is a topical heading. These are headings created to describe the topic of the item being catalogued – the content in that item. For books, this may be terms such as POTTERY or UNITED STATES – HISTORY. For sound recordings, there are still many topical headings that can be used. When using a subject heading list, the starting point is to look up a term that the cataloguer believes is an accurate reflection of the content of the item being catalogued. For sound recordings, the cataloguer always can start with the term MUSIC. One of the useful features of the subject heading list is the information in the scope notes given with many of the subject headings. For MUSIC, the scope note indicates that a subdivision of SONGS AND MUSIC can be used under many types of subject headings, including the names of persons, place, and topical headings. This gives the cataloguer very broad options for creating

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subject headings to cover any type of music. Any topical heading in the subject heading list can be turned into a heading for a sound recording using this option of a subdivision. This option can be very useful when dealing with music intended for children, as it allows the cataloguer to use subjects that may be frequently requested in library and expand them to include an element of the non-print collection. For example, a collection of songs about animals can have the subject heading of ANIMALS—SONGS AND MUSIC.

Also included in the first part of the entry for MUSIC is a lengthy list of narrower terms related to music. This includes subject headings such as CHRISTMAS MUSIC, DANCE MUSIC, JAZZ, MARCHES, POPULAR MUSIC, TELEVISION AND MUSIC, VOCAL MUSIC, WEDDING MUSIC, and many others. Many of these narrower headings are what are called genre headings. They describe the type or style of the music on the recording, rather than the content or subject of that music. Library of Congress subject headings have many options for these genre headings in the category of music, so libraries have many from which to choose for their cataloguing. In the two examples shown below, the subject headings used are genre headings that describe the type of music recorded on these CD's.

Example:

LC Control Number:	91761620
Type of Material:	Music Sound Recording
Personal Name:	Davis, Miles.
Main Title:	Miles Davis all stars [sound recording]: live in 1958-59.
Published/Created:	[S.l.]: Jazz Band, p1990.
Related Names:	Coltrane, John, 1926-1967.
Description:	1 sound disc: digital, stereo. ; 4 3/4 in.
Publisher Number:	EBCD 2101-2 Jazz Band
Contents:	Introduction. Walkin' — All of you — Introduction. Sid's ahead — Bye bye blackbird — Straight no chaser — Introduction. Four — Bye bye blackbird — No blues — Closing announcement (What happened) — What is this thing called love?
Notes:	Compact disc.
Cast:	Featuring John Coltrane; and various performers.
Subjects:	Jazz—1951-1960.

Example:

LC Control Number:	2003561065
Type of Material:	Music Sound Recording
Main Title:	Jonah, a Veggie Tales movie [sound recording]: original movie soundtrack / Big Idea Productions.
Variant Title:	Big Idea's Jonah, a Veggie Tales movie: original movie soundtrack
Published/Created:	[S.l.]: Big Idea Records, p2002.

Related Names:	Rice, Chris, 1962-
	Anointed (Musical group)
	Newsboys (Musical group)
	Relient K (Musical group)
Related Titles:	[Jonah, a Veggie Tales movie (Motion picture)]
Description:	1 sound disc: digital; 4 3/4 in.
Publisher Number:	BID5014 Big Idea Records
Contents:	Big Joe McGuffrey — Bald bunny — Steak and shrimp — Pirates who don't do anything — Message from the Lord — It cannot be — Second chances/Anointed — Jonah was a prophet — In the belly of the whale/Newsboys — Billy Joe McGuffrey/Chris Rice — Pirates who don't do anything/Relient K — Opening titles — Joppa market — Jonah meets the pirates — Dream/Cards at sea — Jonah meets the whale — Nineveh — On the hill — Credits song.
Notes:	Compact disc.
Cast:	Newsboys, Relient K, Chris Rice, and Anointed.
Subjects:	Christian rock music.
	Contemporary Christian music.
	Motion picture music.

Notes

In the example above, from the Veggie Tales movie, if the cataloguer felt it was a useful option, there could also be a subject heading of VEGETABLES—SONGS AND MUSIC, using both the topical and genre headings in the same cataloguing record.

Another helpful part of the subject heading list under the heading MUSIC is the listing of various subdivisions that can be used with this subject heading. In addition to the options given above, of the subdivision SONGS AND MUSIC under any topical heading, and the narrower genre headings listed under MUSIC, there are many subdivisions designed specifically for this particular heading. These subdivisions cover the history of music and different aspects of the study and use of music. Many of them may be too narrow or specialized for most sound recordings, but knowing they are listed there to remind the cataloguer of options available is helpful. There are also several phrase headings beginning with the word MUSIC listed in this section of the subject heading list. Again, many of these may be too specialized for most sound recordings, but the options include headings such as MUSIC AND MAGIC, MUSIC FESTIVALS, MUSIC BY WOMEN COMPOSERS, and many other specific ways to look at the topic of music. It is important for the cataloguer to be aware of the many options available, so that the cataloguing record can be tailored to the needs of the patrons of his or her library.

While much of the cataloguing done currently involves purchasing or copying cataloguing from other sources, it is important to remember that the cataloguer has quite a lot of freedom in the use of subject headings, for sound recordings as well as for other items in the library. The intent of subject headings is to provide access to the collection for the patrons and staff of the library, so the headings used should be helpful to those patrons and staff. As long as a standardized subject heading list is used and good cataloguing practice is followed, the cataloguer has the freedom to add as many or as few headings as desired. Smaller libraries may find more headings to be useful, to expand access to a smaller collection. Larger libraries often find that more subdivisions are helpful to divide up larger subject collections.

Notes

Notes Following the guidelines given in the scope notes and examples shown in the subject heading lists will give the cataloguer an accurate idea of the possibilities that exist in various subject areas and genres of materials. These options can then be used, keeping the patrons in mind, to create the access points most useful for each individual library.

Self Assessment

State whether the following statements are true or false:

1. The purpose of using a subject heading in a cataloguing record is to give the person searching for items in the library a way to find information by the topics that are covered in those items.
2. The most commonly used type of subject heading is a topical heading.
3. Library of Congress subject headings have only one option for these genre headings in the category of music, so libraries have many from which to choose for their cataloguing.

10.2 Theoretical Basis

The most comprehensive tool for finding subject headings for any topic in a periodical index or library catalogue is the official subject heading list for that index or catalogue. These subject heading lists are sometimes referred to as an "authority file" or a "controlled vocabulary" list. Most indexes or catalogues use some form of "controlled vocabulary" so that indexers (the people who assign subject headings to each record) have a standardized list of headings to choose from for each article, book or other document. Researchers can use this same list to find the right search terms for their topic. Controlled vocabularies for many indexes are available in book form and, for most online databases they can be accessed electronically.

The most useful controlled vocabulary lists, called "thesauri" ("thesaurus" is the singular form,) include broader, narrower, and related terms, as well as indications of headings not used. Thesauri are very useful to researchers because they:

1. Tell them under what headings a given subject may be found in the catalogue or index.
2. Direct them to other headings under which books or articles with related topics will be found.
3. Break down broader subjects into subdivisions to aid researchers in limiting their topics.

One of the most extensive and commonly-used controlled vocabulary lists is the Library of Congress Subject Headings (LCSH), which is used by most library catalogues. This list is available in a five-volume set of large red books, usually found near the catalogue or reference desk in most libraries. You can also access most of the LCSH information at the Library of Congress web site by using the Subject search mode of the Library of Congress catalogue.

10.2.1 Library of Congress Subject Headings (LCSH) Using the Library of Congress Web Catalogue

Most of the subject heading information of the LCSH is available by using the Subject search mode of the Library of Congress web catalogue. When you enter a subject word or words in the box and click the Search button (or press Enter), a "Headings List" will be displayed in four columns:

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- [#] includes a sequential number and the icon for some entries
- [Titles] indicates the number of catalogue records with the heading
- [Headings] displays the heading itself (select to see a Titles List for that heading)
- [Heading Type] indicates the thesaurus or list used for subjects

To use this search mode to find useful subject headings for your topic, look for an entry related to your topic with the icon and click on this icon to view any of the following:

- See, See Also, and Narrower Term References: official subject headings which are related to original heading
  - See references link from a term that is not used to one that is an official heading
  - See Also references link from one official heading to another official heading that is equal in breath
  - Narrower Terms link from one official heading to a more specific official heading
- ***Scope notes*** are often used in the LCSH and other thesauri. A scope note is a short paragraph defining what information is included under the subject heading and, if the term is relatively new, the scope note may indicate when the term began to be used.

Follow any of the links listed for a topic you are researching in order to collect as many official subject headings as you can find that might be relevant to your subject. You can then use these subject headings when searching for books and other information on your subject in library catalogues or other research databases. You do not need to display the specific items listed for any of the subject headings in the Library of Congress. The purpose for using this database is simply to find useful subject headings for your further research.

10.2.2 Library of Congress Subject Headings (LCSH) Print Version

In the print version of the LCSH, terms used as subject headings are printed in boldface type. Sometimes Library of Congress classification letters and numbers are listed after a subject heading. This classification information indicates the beginning letters and numbers of call numbers for books specifically on that subject. Occasionally a scope note is included after a subject heading. A scope note is a short paragraph defining what information is included under the given subject heading.

Several different types of cross reference terms are used in the LCSH. Each type of term is described below:

USE: When a word is listed in regular print and is immediately followed on the next line by the term USE, the word listed above the "USE" is not a correct subject heading. A USE reference in the LCSH is the same as a SEE reference in a catalogue.

Example: **Travel and Health**

USE Travel—Health aspects

The USE reference here redirects the researcher from a term that is not used (Travel and health) to one that is used (Travel—Health aspects).

UF: USED FOR indicates headings that are not used. In general, UF references should be ignored when you are using the LCSH to find related subject headings. UF references simply indicate that USE references have been made from these unused headings to the heading in boldface type above them, which are used.

Notes

The following three types of cross references are similar to SEE ALSO references in a catalogue. In addition to simply indicating other subject headings that are related to a given heading, each of these references describes how the terms are related in scope:

BT: BROADER TERM indicates headings for related topics that are broader in scope.

RT: RELATED TERM links two terms that are related in some way, but equal in scope.

NT: NARROWER TERM indicates headings for related topics that are narrower or more specific in scope.

An additional cross-reference also identifies related subject headings, but is used less frequently:

SA: SEE ALSO indicates a related term that is listed as a subheading of other terms.

SUBHEADINGS of used subject headings are listed after all of the cross references for the heading. Subheadings are indicated with a single dash (-). Further subdivisions of subheadings are indicated with additional dashes. All of the cross references described above may also be used for any subheadings.

Did u know? The abbreviated note "(May subd Geog)" following a subject heading indicates that geographical subdivisions may be used with that heading. Form subheadings may be used with any subject heading and are not included in the LCSH.

10.2.3 General Guidelines

General Guidelines to follow when using the LCSH to find related subject headings:

Look up USE references to find headings that are used for a subject; then look up BT, RT and NT references as appropriate. RT references should be especially noted since they are most equivalent to the given subject heading. NT references should be used when you need to narrow your topic. Subdivisions (subheadings) should also be used to find more specific headings on a subject. Broader terms should be used if your topic seems to be too specific and you have not been able to find enough information.

Since the LCSH is based on the Library of Congress collection, which is one of the largest library collections in the world, many valid subject headings will only be found in the largest or most specialized library catalogues and will not be included in most library catalogues.

Task Critically examine the most extensive and commonly-used controlled vocabulary lists.

Self Assessment

Fill in the blanks:

4. The ……lists are sometimes referred to as an "authority file" or a "controlled vocabulary" list.
5. The most useful controlled vocabulary lists, called ……include broader, narrower, and related terms, as well as indications of headings not used.
6. In the print version of the LCSH, terms used as subject headings are printed in ……..

10.3 Problems

Notes

Some of the problems related to subject heading list are as follows:

1. ***The list of LC subject headings is not comprehensive:*** It is based on "literary warrant" — i.e., based on headings that have actually been used to reflect topics in works catalogued at LC or at libraries where SACO proposals for new subject headings have been submitted, then accepted at LC. You may continually run up against the problem of not finding a heading for a major topic that the work covers. (Our trained original cataloguers sometimes submit SACO proposals for new subjects.)
2. ***The choice and form of headings are not necessarily current:*** The LCSH terms have evolved over time, but they can never be totally up to date. Although LC has made considerable efforts to keep up to date in its subject terminology, you will still find terms that sound archaic or that diverge from common terms (e.g., the subdivision "$x Antiquities"). Currently, weekly lists with updated, new, or deleted terms are issued; quarterly lists are printed in issues of the LC Cataloguing Service Bulletin (CSBs) with new headings that LC thinks may be particularly timely.

Example:

- ***Recent heading (Fall 2002):*** 650 0 Marine ecotourism
- ***Recent heading (January 2007):*** 650 0 Asian American women in motion pictures

3. The meaning and usage of a term in LCSH may not be what we might expect from its use in regular spoken English. You sometimes need to consult scope notes and/or bib records to figure out what the term really means in LCSH.

Example:

- 650 0 Archaeology $z Mexico — refers to the discipline of archaeology, Mexican archaeologists, etc.
- 651 0 Mexico $x Antiquities — refers to archaeological sites, artefacts, etc.

4. The form of a subject heading or subject string is not always easy to predict. Plans are in the process of being implemented to update and simplify patterns of subject heading construction. For example, more phrase headings now appear in direct rather than inverted order.

Example:

- Women, Deaf is now obsolete; switched to: 650 0 Deaf women
- Societies, Primitive is now obsolete; switched to: 650 0 Primitive societies

Self Assessment

State whether the following statements are true or false:

7. The list of LC subject headings is comprehensive.
8. The choice and form of headings are necessarily current.
9. The form of a subject heading or subject string is not always easy to predict.

Notes

10.4 Types of Subject Headings

Following are the types of subject headings:

1. ***Topical Headings:*** Topical subject heading is simply the words or phrase for common things to represent the content of various works. The word commonly used in a literary work should represent the item catalogued. Common usage is one criterion for subject heading. Abiding Cutter's rule of specificity and choosing a single word or phrase from among its synonyms and near-synonyms are necessary to maintain uniformity in a library catalogue. Subject headings should be clear and unambiguous.

   In choosing one term as a subject heading from among several possibilities the cataloguer must also think of the spelling, number and connotations of the various forms.

2. ***Form of Headings:*** Form headings mean the intellectual form of the materials. Some form headings describe the general arrangement of the material and the purpose of the work such as Almanacs, Directories, Gazetteers, Encyclopaedias and Dictionaries.

   Other form headings are literary forms and genres. Headings for major literary forms are used for collections only; for example Fiction, Poetry, Drama and Essays.

Notes Minor literary forms (genres) are much more numerous and assigned to individual literary works.

   The distinction between form headings and topical headings in literature can sometimes be made by using the singular form for the topical heading and the plural for the form heading the peculiarities of language, however, do not always permit the distinction.

3. ***Geographic Headings:*** The appropriate subject heading for geographic areas, countries, cities, etc. are the names of the place in question. The List does not attempt to provide geographic headings, which are numerous and far beyond the scope of a single volume. The cataloguer must establish geographic headings as needed with the aid of standard reference sources. There are two categories, with various complicating factors:

   (a) *Places that have or had jurisdictional status on some level:* Such places – e.g., countries, cities, and provinces – have governments that could issue works and thus could function as corporate authors.

Example: Argentina

Louisiana

Jefferson Parish (La.)

North Yorkshire (England)

LC might set up a jurisdiction in its name authority file or its subject authority file – depending on the situation and, historically, who got to it first. The form of access point should be the same whether its function in the record is to represent a responsible body or subject. The rules for construction are covered in AACR2 revised (chapter 23) and the associated LCRI. Additional relevant rules show up in the Subject Cataloguing Manual: Subject Headings.

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(b) *Geographic features without jurisdictional status:* Such places – e.g., individual mountains or mountain ranges, rivers, bays; regions larger than countries, including continents and groups of countries; regions within countries that do not correspond to political divisions – could only relate to a work as subjects.

Example: Alps

Mississippi River

4. ***Names:*** The appropriate heading for individual persons, families, corporate bodies, literary works, motion pictures, etc., is the unique name of the entity in question. There are three major types, personal names, corporate names and uniform titles. Like geographic headings, name headings, are numerous beyond the scope of Sears List and must be established by the cataloguer as needed.

5. ***Uniform title (MARC tag 630):*** The form of a uniform title heading used as a subject should be the same as that in the name authority file, so the form of the access point is the same whether its function in the record is to represent the uniform title for the content of a work, for the content of part of a work, for a series, or for the subject a work discussed in the work in hand. Therefore, the rules for construction are covered in AACR2 revised and the associated LCRI.

Self Assessment

Fill in the blanks:

10. ……subject heading is simply the words or phrase for common things to represent the content of various works.

11. ……headings mean the intellectual form of the materials.

12. The form of a ……..title heading used as a subject should be the same as that in the name authority file.

10.5 Methods of Deriving Subject Headings

In any system of classification that determines the arrangement of items in the shelves, a work can obviously have only one class number and stand in only one place, but in a catalogue the same work can be entered, if necessary, under as many different points of entry as there are distinct subjects in the work (usually, however, not more than three).

Methods are used to gather in one numerical place on the shelf works that give similar treatment to a subject. Subject headings gather in one alphabetical place in a catalogue all treatments of a subject regardless of shelf location. Another difference between classification and subject cataloguing is that classification is frequently less precise than the subject entries for the catalogue.

There are areas either the complexity of the material or the vagaries of the English Language create persistent problems.

10.5.1 Biography

Biography is a form of writing given the topical subject heading. Biography as a literary form. It can be a form heading Biography or the form subdivision Biography. It has two groups the collective and the individual biographies.

Notes

Collective Biographies

There are works containing biographies of more than three persons. Collective biographies not limited to any area or to any class of persons, e.g. Lives of Famous Men and Women are simply assigned the heading Biography. Often collective biographies are devoted to persons of a single country or geographic area.

Example: Who's who in the Arab World?

Arab countries – Biography

If there are many entries under any such heading, the biographical dictionaries, with a list a large number of names in alphabetical order, may be separated from the workers with longer articles intended for continuous reading by adding the form subdivision Directories, e.g. United States – Biography – Dictionaries.

Some collective biographies are devoted to lives of a particular class of persons, e.g. Women – Biography; or persons of a particular occupation or profession, e.g. Librarians – Biography. To persons connected with a particular industry, institution or field, e.g. Computer industry – Biography, Catholic Church – Biography. A subject usually broader in scope than a single category of persons associated at the subject, e.g. – Biography would be player – Biography and would be more suitable for a collective biography that includes managers, owners of teams, and other persons associated with the sport.

Individual Biographies

The subject heading needed for the life of an individual is the name of the person. If a work is an autobiography, the author's name is entered in the bibliographic record twice as the author and as a subject. Works about their writings or other activities – subdivisions are added to the person's name, e.g. Jesus Christ and Shakespeare, William, 1464-1616. It should be noted that the use of subdivisions represents the exceptional, not the usual, treatment. For most individual biographies the name alone is sufficient.

Occasionally, a biography will include enough material about the field in which the person worked that second subject heading is required in addition to the personal name. The additional subject headings should be used only when the work contains a significant amount of material about the field of endeavour in addition to the subject's personal life, not simply because the subject was prominent in that field.

Caution The real reason for not entering individual biographies under categories of persons is that it violates the principle of specific entry.

10.5.2 Nationalities

The general rule in the national aspect of the subjects is expressed by geographic subdivisions under the topical subject heading.

- Headings that are always stationary are never given national adjectives but subdivided geographically, e.g. Architecture – France.
- Headings that are not stationary are also expressed as topical headings with geographic subdivision, e.g. Automobiles – Germany and Corporations – Japan.

Notes

- When transported or replicated to foreign country they are given national adjectives to express national style, ownership or origin and subdivided by the place where they are found, e.g. German automobiles – United States and Japanese corporations – France.
- Persons are subdivided geographically except authors, novelist, dramatist and poets who are given national adjectives.
- Writers such as biographers, journalists, etc. are subdivided geographically.

Example:

- Collective biographers of American poets

  American poets – Biography

- Collective Biographers of American composers or journalists

  Composers – United States – Biography

Persons from one country living or working in a foreign country.

10.5.3 Literature

This includes two distinct types of material:

1. Consist of works about literature and such works are assigned topical subject headings for whatever they are about.
2. Consists of literary works themselves and those works are assigned to describe what the item is rather than what is about.

Works about Literature

Works about literary forms are the headings such as Drama, Fiction and Poetry.

- A work about history of poetry or about criticism of poetry, e.g. Poetry – History and criticism.
- A work about the technique of writing plays, e.g. Drama – Technique.
- A form subdivision may also be used.
  1. Drama – Dictionaries
  2. Poetry – Indexes

Lesser genres such as Science Fiction or Epic poetry are also applicable to works about literature with topical and form subdivisions added as needed.

Literary works are according to the categories characterized by nationality (American literature, Mexican literature and Brazilian literature), language, regions, etc. Again for specific forms are expressed by subdivision.

There are also literatures characterized by areas larger than countries, by languages not limited to or identified with a single country or by religions such as Buddhist literature. When it is written in two or more languages it is identified in parenthesis, e.g. Canadian literature (French). Literatures of minority groups, written in predominant language of that country's literature are identified by subdivision indicating the author group, e.g. Literature – African American authors. With indigenous minority groups written in their own language are given the name of that language, e.g. Navajo literature.

Notes

Literary Works

Two types of literary works:

1. Collection of several authors or anthologies.
   - ❖ Heading for specific literary forms is literary anthologies.
   - ❖ Heading for general anthologies is given broad headings, e.g. Literature – Collections; Poetry – Collections; or Drama – Collection.
   - ❖ For national literatures and the forms of national literatures are given headings subdivision Collections e.g. American literature – Collections and Italian poetry – Collections.
   - ❖ For minor literary genres such as Science fiction or Pastoral poetry are usually assigned to anthologies without any subdivision.
2. Works by a single author or individual literary works.
   - ❖ It has no subject headings. Literary works are best known by author and title.

In the Sears list the headings for minor literary forms and genres is about the topic.

Themes in Literature

The appropriate heading for the material about topics, locales, or themes in imaginative literature is simply "Topic in literature". Headings of this type are for critical discussions only, not for literary works.

- Materials about depiction of historical persons in drama, fiction, or poetry are entered under the person's name with the subdivision in literature such as Napoleon I, Emperor of the French, 1769-1821 – In literature.
- Materials about the depiction of a particular war in drama, fiction or poetry are entered under the heading for the war with subdivision Literature and the war, such as World War, 1939 – 1945 – Literature and the war.

10.5.4 Wars and Events

Wars fought between two or more nations are given a name followed by a date or dates, as appropriate, such as War of 1812; Israel-Arab War, 1967; World War 1939-1945; etc. Civil wars, insurrections and invasions are entered the history of the country involved (following the dates as with other historical periods.) such as United States – History 1861-1865; Civil war; Cuba – History – 1961, Invasion; etc. Events that have names are given a heading for the name followed by the place and then by the date, such as Tiananmen Square incident, Beijing (China), 1989, and World Trade Center Bombing, New York (N.Y.), 1993. Battles are entered under the name of the battle, but inverted form, with the place of the battle qualified as needed. Recurring events, such as, festivals, etc., are given the recurring name, followed by the date, with the place in parentheses, if the place changes.

Did u know? Unnamed events such as individual riots or tornadoes are entered under the kind of event subdivided by the place of the event.

10.5.5 Non-book Materials

The assignment of subject headings for electronic media and for audio-visual and special instructional materials should follow the same principles that are applied to books. Non-book

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materials often concentrate on very small aspects of larger subjects, the cataloguer may not find in the List the specific heading that should be used. In such instances the cataloguer should be generous in adding new subjects as needed. Topical subject headings assigned to non-book materials should not include form subdivisions to describe physical format, such as motion pictures, slides, sound recordings, etc.

Self Assessment

State whether the following statements are true or false:

13. Biography is a form of writing given the topical subject heading.
14. Headings that are always stationary are always given national adjectives and are not subdivided geographically.
15. With indigenous minority groups written in their own language are given the name of that language.

10.6 Use of Subject Headings

The library catalogue is vital function at the very centre of a library, and as such it is always growing and changing to reflect the growing collection and to meet the changing needs of the users. It is a challenge to the cataloguer to add new records, revise existing records, and make all the appropriate references, and at the same time maintain the integrity of the catalogue.

10.6.1 Adding New Headings

The first thing to be determined is whether or not there is already an existing heading in the List for that concept. Upon consulting the List it becomes clear that those words are not headings but references. At other times the appropriate heading for a book is not a new heading but a new combination of an established heading and a subdivision.

The cataloguer should keep in mind that it is not only appropriate but essential that types of things and examples of things not found in the List be established as headings and added to the List locally as needed. The general references in the List should reinforces in the List should reinforce the point that the List does not aim at completeness and must be expanded. Even where there is no general reference, narrower terms for types of things and examples and instances of things must be added as needed.

10.6.2 Revising Subject Headings

All the inverted headings in the Sears List, for example, were eventually revised to the uninverted form. With each new edition of the Sears List a library should consult the List of Cancelled and replacement Headings in the front of the volume and revise its catalogue accordingly. Any headings created locally based on the pattern set by a Sears heading, and strings consisting of a Sears heading and a subdivision, must also be revised if that heading is revised in Sears.

Notes In card catalogue the subjects are physically erased and retyped, either on all the cards on which they appear or on the subject entry cards alone. If in card catalogue replacement of a term ids desirable but the number of bibliographic records to be revised is prohibitive, a history note can be used instead.

Notes

In an online catalogue the revision process depends upon the software employed in the catalogue. If the software provides global update capability, the revision of many bibliographic records at once is simple.

10.6.3 Making References

References direct the user from terms not used as headings to the term that is used, and form broader and related terms to the term chosen to represent a given subject. The List uses the symbols found in most thesauri to point out the relationships among the terms found in the List and to assist the cataloguer in establishing appropriate references in the public catalogue based upon these relationships. There are three types of references: See references, See also references and General references.

See References

A cataloguer may want to use some or all of them as references, and many cataloguers and other see references they deem useful. The references will be more useful; if the cataloguer considers materials from the reader's point of view. The readers profile depends on age, background, education, occupation, and geographical location and takes into account the type of the library such as school, public, university or special.

These are some term that might be used as See references in a catalogue:

1. Synonyms or terms so nearly synonyms that they would cover the same material.
2. Compound headings.
3. The inverted form of heading, either an adjective-noun combination or a phrase heading, especially if the word brought forward is not also the broader term.
4. Variant Spelling.
5. The opposite of term, when it is included in the meaning of the term without being specifically mentioned.
6. The former forms of headings revised to reflect the common usage, when the older term is still having much currency.

When the same heading is subsequently assigned to other works, the references are already in place. When the cataloguers adds a heading to the authority file as needed, all the appropriate See references are entered as well the first time the heading is used.

See also References

Under most headings in the sears list, following the Broader term label, is a term that is broader in scope than the heading itself. As a rule, a term has only one broader term, unless it is an example or aspects of two or more things. The broader term serves two functions in the list. The first is to aid the cataloguer in finding the best term to assign to a work, and the second is to indicate where See Also references should be made in the public catalogue.

Did u know? Many headings in the sears list following the Related Terms label, one or more terms are listed that present similar or associated subjects.

A reference is never made to the heading until there is work entered under the heading in the collection, and if the only work entered under a heading is lost or disregarded the references to

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that heading must be deleted. References to headings under which there is no materials in the collection are called blind references and to be avoided.

General References

The field contains a general reference, not to a specific heading, but to a general group or category of things that may be established as headings as needed. An example is the subject heading, Clothing and dress, where the general reference on the record is to See also "types of clothing articles and accessories, {to be added as needed}."

Another function of the general reference is to provide instruction in the application of subdivisions. For every subdivision provided, there is a general reference spelling out the use of that subdivision.

10.6.4 Recording Headings and Reference

All the subject headings used in the catalogue and all the references made the cataloguer should always kept it. This local authority file may be kept on cards or on a computer. Some cataloguers are tempted to do without this process and nothing more consult the catalogue whenever there is a question of previous practice. It is not possible to consult the catalogue at the heading.

Original cataloguing do many libraries instead of getting their cataloguing records from outside sources, either from computerized cooperative cataloguing utilities or from vendors, often the same companies that sell them their books and other library materials. A library using sears list subject heading will need to apprise the vendor of the fact. When the cataloguing records arrive in the library, only a cataloguer can made the appropriate references in the local catalogue, tailored to that library's particular collection, which make the records useful to the users.

Self Assessment

Fill in the blanks:

16. In ……..catalogue the subjects are physically erased and retyped, either on all the cards on which they appear or on the subject entry cards alone.
17. There are ……types of references.
18. The ……..contains a general reference, not to a specific heading, but to a general group or category of things that may be established as headings as needed.

Case Study

The Effect of Library Use in Education as a Course on Library Patronage

One of the fundamental laws of the library is that the resources-books and non-book must be well consulted. The librarian has to acquire and provide access to the information stocked in the libraries. The user is very important in the practice of librarianship; this is because library process revolves around the users. The user is very critical to the services of a library, hence the user of a library must be constantly asked to assess the services and resources provided, as this will help the library to improve upon its services. No matter how large the stock of a library is, if the services and its

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resources are not fully utilized, such a library will end up a white elephant. It is worthy to note however that any attempt on the part of the library to ignore the satisfaction of its users will be done at the library's peril.

The library provides library use education in order to equip a user with enough knowledge on the use of the library. This will enable the user to use the library resources effectively and efficiently. The reason is that library processes could be so complex that an average user may not easily comprehend how to utilize the available resources. As a result of the era of information explosion in which we are, information is expanding at a very fast rate and new resources are being introduced into the library (Aina, 2004). With the advent of Information Technology (IT), which has permeated almost all the activities of libraries, it is important to explain the working of a library to a new user in detail. The ultimate objective is to enable users exploit the resources of a library to the fullest. Fjallbrant (1990) defines the concept thus: "……..the teaching of those skills that will enable students to locate and use materials effectively, and feel confident in using the library. Also, its aim is to acquaint users with the use of materials in the libraries". Similarly, Fleming (1990) defined library use education "as various programmes of instruction, education and exploration provided by libraries to users to enable them to make effective, efficient and independent use of information sources and services to which these libraries provide access".

Bello (2003) corroborated the view of Fjallbrant, by stating that library use education is a device by the librarians to educate users on how to use the resources available in the library in a result oriented ways. Thus it is concerned with information retrieval, since the objectives of the library use education according to Osagie (2003) are as follows:

- To enable users to know how to use the library catalogues independently in any library with particular references to the Author/Title and subject catalogues.
- To enable users to understand the classification schemes in any library so as to be able to locate materials (books, journals, audio visual materials etc.) with little or no problem;
- To be able to see library catalogues as indexes to the entire collection and use them as such, and
- To enable the users to see the library as a repository of knowledge that determines the success of the students' academic programme because it is not possible for an individual to have the collection of a library.

Students in Nigerian tertiary institutions are introduced to the use of library in one form or the other, in order that the users might know what to consult in their quest for information. Today, most students in higher institute of learning finds it difficult to explore the world of information sources thus leading to poor appreciation of the library and its resources, which contributed to their inability to undergo meaningful researches or at best become poor library users. It is believed that a concerted effort to know and understand library more will eventually enable the individual to develop his/her self to the fullest potentials. This becomes very important as it will enable man to contribute effectively and positively to the development of the society at large.

There are goals and objectives for library use education in any type of library. Fjallbrant and Stevenson (1978) described the goals and objectives of user education in academic libraries as follows; " The goals and objectives for programmes of University library user education must be in agreement with the general aim of the library, the aims which must in turn, be related to the goals and aims of higher education".

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Among the information goals of University libraries as stated by Adio (2006) are:

- To contribute to the realization of the aims of the University with regard to teaching, learning and research, by acquisition of material (both print and non-print) necessary to cover present day and future information needs;
- To organize the material acquired in such a way that it not only permits but actively stimulates the use of the materials;
- To adapt these information resources and services to the ever-changing needs of the University, and the society; and
- To contribute to the integration of both National and International information resources within the University.

The use of library by students in tertiary institutions is very paramount to academic performance because library is the heart of academic excellence. User education programme in the academic setting is a useful approach to guide all users of the library the way to use library resources. History was made in Ladoke Akintola University of Technology during 1998/99 Harmattan semester when the curriculum on the use of library was approved by the senate. This brought about the introduction of the course 'termed' library 101 (Use of library which started in 1999 by the library Academic/professional staff. (Adio and Ajala, ed. 2006)

As at the time of introduction of the course 'Library 101', it was a unit credit course, which was later changed to zero unit course in the year 2001. Though, a zero unit course, it is a compulsory course that all undergraduate fresh students must pass before their graduation from the institution. It was the attitudes of the user to the use of library materials that led to the introduction of the course as a University requirement to the situation of misuse, mishandling and general abuse of library materials. The contents are divided into five main chapters. Definition, registration and regulation guiding the library; library information guides; Information Technologies (computers) in libraries; library cataloguing and classification. All these topics give significant correlation to one another, though written separately.

At the onset, the guide prepare for the student was a pamphlet of about ten pages. It is to be noted however that the material used as a course guide in teaching this course has improved tremendously into a book form called 'library use manual' with the latest edition i.e. 2006 edition containing 93 pages respectively.

Questions

1. Critically analyse the above case.
2. Write down the case facts.
3. What do you infer from the case?

Source: http://www.ukrbook.net/UDC_n/st_21.pdf

10.7 Summary

- Many libraries use authority for their subject headings because it is the one most commonly used in creating the MARC records that are shared through cataloguing databases such as OCLC.
- The purpose of using a subject heading in a cataloguing record is to give the person searching for items in the library a way to find information by the topics that are covered in those items.

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- The most commonly used type of subject heading is a topical heading.
- The most comprehensive tool for finding subject headings for any topic in a periodical index or library catalogue is the official subject heading list for that index or catalogue.
- One of the most extensive and commonly-used controlled vocabulary lists is the Library of Congress Subject Headings (LCSH), which is used by most library catalogues.
- Sometimes Library of Congress classification letters and numbers are listed after a subject heading.
- Since the LCSH is based on the Library of Congress collection, which is one of the largest library collections in the world, many valid subject headings will only be found in the largest or most specialized library catalogues and will not be included in most library catalogues.
- Subject headings gather in one alphabetical place in a catalogue all treatments of a subject regardless of shelf location.
- The library catalogue is vital function at the very centre of a library, and as such it is always growing and changing to reflect the growing collection and to meet the changing needs of the users.

10.8 Keywords

Biography: A biography is a detailed description or account of a person's life.

Form of Headings: Form headings mean the intellectual form of the materials. Some form headings describe the general arrangement of the material and the purpose of the work such as Almanacs, Directories, Gazetteers, Encyclopaedias and Dictionaries.

Library of Congress Subject Headings (LCSH): The Library of Congress Subject Headings (LCSH) comprises a thesaurus (in the information technology sense, a controlled vocabulary) of subject headings, maintained by the United States Library of Congress, for use in bibliographic records.

Literary Works: Intellectual work expressed in written words, numbers, or symbols (but not audio-visually) in any medium.

Literature: Literature is the art of written work and can, in some circumstances, refer exclusively to published sources.

References: Reference is a relation between objects in which one object designates, or acts as a means by which to connect to or link to, another object.

Subject Heading: Subject headings are a set of terms or phrases (known as controlled vocabulary) that classify materials.

Thesauri: A book that lists words in groups of synonyms and related concepts.

Topical Heading: Topical subject heading is simply the words or phrase for common things to represent the content of various works.

Uniform Title: The form of a uniform title heading used as a subject should be the same as that in the name authority file, so the form of the access point is the same whether its function in the record is to represent the uniform title for the content of a work, for the content of part of a work, for a series, or for the subject a work discussed in the work in hand.

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10.9 Review Questions

1. Discuss the need and purpose of subject heading with the help of example.
2. Why thesauri are very useful to researchers?
3. Explain the Library of Congress Subject Headings (LCSH) using the Library of Congress Web Catalogue.
4. What are the several different types of cross reference terms are used in the LCSH?
5. Highlight the general guidelines that need to follow when using the LCSH to find related subject headings.
6. What are the problems related to subject heading list?
7. Discuss the types of Subject headings.
8. Describe the methods of deriving subject headings.
9. Do you think that library catalogue is vital function at the very centre of a library? If yes, give reasons.
10. Write brief note on Making References in the subject heading.

Answers: Self Assessment

1.	True	2.	True
3.	False	4.	Subject Heading
5.	Thesauri	6.	Boldface Type
7.	False	8.	False
9.	True	10.	Topical
11.	Form	12.	Uniform
13.	True	14.	False
15.	True	16.	Card
17.	Three	18.	Field

10.10 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Notes

Online links

http://blis10kristel.blogspot.in/2010/10/principles-of-sears-list-of-subject.html

http://www.smccd.edu/accounts/csmlibrary/tutorials/subject.html

http://www.smccd.net/accounts/brenner/lsci105/thesauri.html

http://www.tulane.edu/~techserv/lcsh%20introd.html

http://www.tulane.edu/~techserv/lcsh%20introd.html

Unit 11: Chain Procedure

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Objectives

After studying this unit, you will be able to:

- Explain the Classification Scheme Relationship
- Discuss the Postulate-based Permuted Subject Indexing (POPSI)
- Describe the Preserved Context Indexing System (PRECIS)

Introduction

Now a days most of the documents deal with complex and compound subjects; each comprising a number of components or concepts. The coordination of these component terms is either done at the input stage or at the output stage. The index in which the coordination of components (index terms) is done at the input stage, is known as pre-coordinate index. Coordination of index terms at the input stage means coordination of index terms at the time of preparation of the index by the indexer. In pre-coordinate indexing a number of selected terms or keywords are coordinated by the indexer and the cards are prepared for display to the users.

11.1 Classification Scheme Relationship

General classification schemes for libraries are concerned with mapping knowledge so that 'subjects' are differentiated from each other and the relationships between 'subjects' are spatially represented. Classification theorists believe that there is some sort of 'order of things' and that the 'order', which relates to the abstract world of ideas, can be made material in the form of highly conventionalized, symbolically annotated classification schemes. The general library classification system developed into a tool consisting of a system of 'classes', made up of Main Classes, each of which was divided into increasingly specialized sub-classes; a series of symbols, called notation, which operate as signs signifying the classes; and an index which links subject terms and the notational sign. The classification notation in effect becomes a symbolic language built on what Ranganathan terms 'natural language'. Method, order and objectivity, which carry with them the connotations of 'science', are achieved in the general library classification scheme through the rational structures and conventions of Main Classes which assert forms of logical taxonomy, and through the artificially constructed symbols which bear with them connotations

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of algebraic languages. These taxonomies are the product of rational, and often pragmatic and functionalist, worldviews.

Of particular significance in determining how knowledge is represented in classification schemes are:

Main classes: Classification theorists have attempted to 'discipline epistemology' in the sense of imposing main class structures with the view to simplifying access to knowledge in documents for library users. This practice establishes the epistemological worldview upon which the classification scheme is built, a practice which is ideological and dominating, and at the same time liberates the user through facilitating 'open access' libraries which enable the user to locate specific documents held by the library. This is a nice example of the dominating and enabling power of a very localized knowledge/power regime.

Notational language: A number of classification theorists were particularly interested in the establishment of symbolic languages through notation. This view of language is extremely idealist and seems to view what Ranganathan called 'natural language', that is socialized language developed in and through communities of speakers, as unscientific and imprecise.

Notes Although in his canons of classification, he asserts that the order of classes in a classification scheme is built on a theory of knowledge, Berwick-Sayers argued, following on from Edward Edwards, that there are two 'classes' of library classifications: those which have a metaphysical basis and those which are 'merely practical and convenient arrangements, made without reference to any ideal order of knowledge. In the former category he places Dewey's Decimal Classification.

Knowledge organisation systems are first and foremost concerned with surrogates, in the case of library classification schemes, of symbolic notation standing in place of 'subject terms' representing 'concepts'. For Berwick Sayers, despite the lack of brevity in the notation of the Decimal Classification system, the reason for its longevity and world-wide use is its notation, which being based on Arabic numerals, is an international language understood by all nations'. Other classification theorists developed highly complex articulated symbolic 'languages' which mimicked 'natural languages' in employing syntagmatic devices to translate 'natural language' into symbolic notation.

Classification experts and librarians have long recognized the potential of library classification schemes for improving subject access to information. In a 1983 article, Svenonius describes several uses for classification in online retrieval systems, including the following: (1) to improve precision or recall, (2) to provide context for search terms, (3) to enable browsing, and (4) to serve as a mechanism for switching between languages. In the Dewey Decimal Classification (DDC) Online Project (Markey and Demeyer 1986), Markey demonstrated the first implementation of a library classification scheme for end-user subject access, browsing, and display. Although many online catalogues provide call number browsing, few employ classification in the manner described by Svenonius or explored by Markey in her innovative use of the DDC in an experimental online catalogue which enabled users to search and browse online classification data. Only recently, some ten years after Markey's pioneering research, it is online classification data once again being seriously viewed as a tool for providing advanced browsing and retrieval capabilities in online systems.

Otlet was particularly interested in capturing the essential meaning of documents and in the relationships between documents. He was of the view that people do not have enough time to read through the huge proliferation of information in documents, and that they could be helped in the business of scholarly linking by the construction of a massive bibliography consisting of

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summaries of the content of documents. He was enough of a positivist to believe that within documents, despite the errors and opinions therein, lies the kernel of truth in the form of 'facts', and it was the 'facts' that he was interested in identifying and representing. He envisaged his classificatory language becoming used to represent the skeleton of 'meaning' in the form of 'facts' found within the flabbiness of the original document. Essentially, the symbols of UDC were to form a scientific language with which one could cut through the ambiguities and complexities of 'natural language'.

Task Do you think that Knowledge organisation systems are first and foremost concerned with surrogates, in the case of library classification schemes? If yes, give reasons.

For Ranganathan, notational language could at least theoretically function as a system of material signs signifying aspects of individual experience not translatable into 'natural language'. S.R. Ranganathan was an Indian librarian who studied under Berwick Sayersat UCL's School of Librarianship. His Colon Classification scheme, based on faceted classification, was a completely novel approach to organising knowledge in libraries. Colon classification was not a hierarchically derived scheme: it was rather a set of independent tables for subjects, for relations, forms and other aspects of classification, each one of which could be used in combination with other tables to sub-divide. Berwick Sayers describes these tables as parts of a 'Meccano set which by the use of nuts and bolts can be used for many different constructions.'

Did u know? All division of subjects in this scheme is determined by what Ranganathan calls the 'fundamental concepts': Time, Space, Energy, Matter and Personality, but the specific meanings of these concepts are determined by the context in which they occur.

Self Assessment

State whether the following statements are true or false:

1. The general library classification system developed into a tool consisting of a system of 'classes' made up of Main Classes.
2. The taxonomies are not the product of rational, and are not pragmatic and functionalist, worldviews.
3. A number of classification theorists were particularly interested in the establishment of symbolic languages through notation.
4. Classification experts and librarians have not recognized the potential of library classification schemes for improving subject access to information.
5. S.R. Ranganathan was an Indian librarian who studied under Berwick Sayers at UCL's School of Librarianship.

11.2 Postulate-based Permuted Subject Indexing (POPSI)

Postulate-based Permuted Subject Index (POPSI), designed by Ganesh Bhattacharyya at the Documentation Research and Training Centre (DRTC), Bangalore, is another indigenous indexing model besides Ranganathan's Chain Procedure. It is now about fifteen years since it has been designed and is in the process of further development, particularly in its application. POPSI can be applied to micro and macro level documents available in the form of non-print/non-book

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forms. As the system is comparatively new, its use in subject files is rather limited. What follows is a short summary of POPSI dealing with some of the essential features of it, largely culled out from the writings of Bhattacharyya.

POPSI as a process for preparing subject-index consists primarily of (a) analysis; (b) synthesis; and (c) permutation. POPSI is not based upon any particular system of classification but built around a set of fundamental theoretical ideas on classification both in the analysis of subjects as well as in the structuring of the names of subjects. The deep structure of POPSI arises from the General Theory of Subject Indexing Language, which should form the basic framework for any system of subject indexing.

All ideas, concrete or conceptual could be regarded as a manifestation of one or the other of a set of postulated Elementary Categories of POPSI. These Elementary Categories are: Discipline (D); Entity (E); Action (A); Property (P) and Modifier (M). These Elementary Categories are explained below:

Discipline (D) includes conventional fields of study, or any aggregate of such fields.

Example: Physical Sciences, Physics, Chemistry, etc.

Entity (E) includes manifestations of ideas that are concrete or conceptual, as contrasted with their properties and actions performed by them or on them.

Example: Energy, Light, Plants, Place, Time, Environment, etc.

Action (A) includes manifestations denoting the concept of 'doing'. Action may manifest as Self Action or External Action.

Example: Function, Migration, Selection, Organisation, Education, etc.

Property (P) includes ideas denoting the concept of 'attributes' – qualitative or quantitative.

Example: Property, Effect, Power, Capacity, Efficiency, Utility, Form, etc.

Modifier (M) relates to the manifestations of any of the Elementary Categories D, E, A, and P. Modifier refers to an idea that qualifies the ideas of the Elementary Categories without disturbing the conceptual wholeness of them; e.g. Infectious disease.

- The arrows indicate the multi-relationships between the elementary categories.
- The arrows indicate the multi-relationships between the elementary categories.

Besides the DS of SILs, a number of associated postulates are taken as the basis of POPSI system. The major ones are:

- ***Basic Sequence***: The sequence Discipline (D) followed by Entity (E), both modified or unmodified, appropriately interpolated or extrapolated by Action (A) and Property (P), elements of Basic Chain manifesting in a compound subject-proposition. Any A or P may have A and/or P related to it. Their positions are always after the A or P to which they are related. This sequence may be used as the basis for generating organizing classification, and which in turn may form the basis of generating associative classification.
- ***Source Organizing Classification***: The basic sequence of manifestations augmented by the interpolation and extrapolation of successive super ordinates of each EC manifestation, whenever required, will give rise to a basic modulated chain; which can generate a source

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organizing classification in alphabetical arrangement with the aid of suitable apparatus introduced for this.

- ***Associative Classification Effect***: The simple cyclic permutation of each of the sought terms along with the indication, of the structure of subject-propositions meant for organizing classification has every effect of an associative classification.
- ***Systematic Grouping***: Only the notational representations of modulated chains can ensure in arrangement/the ideal systematic grouping by juxtaposition. Only the alphabetical arrangement of modulated chains with suitable notational apparatus taken from the POPSI Table is the closest approximation to the purely notational grouping.

The DS of SILs along with its associated postulates suggest that it is possible to design a basic version of POPSI, which is readily amenable to conversion into specific versions on the basis of certain rules and decisions of the indexer. Thus, it appears that there are two versions of POPSI: POPSI-Basic and POPSI-Specific.

In POPSI, a subject index entry consists of three distinct sections:

1. Approach-term section consisting of approach-term, with or without upper links. This permits the location of entries for the subject.
2. Organizing classification section consisting of entry (ies) for organizing classification. This section provides data for comprehension of the entries to permit relevance prediction.
3. Location/Address Section consisting of the serial number(s) of the record(s) to aid the location of bibliographic information for the document(s) representing the subject relating to the one being sought.

According to the implications of the general theory of the Subject Indexing Language, the standard vocabulary that controls the use of the different concepts has got to be a faceted thesaurus. Under each of the Elementary Categories – Discipline, Entity. Action and Property, the broader terms, the narrower terms, synonyms, quasi-synonyms of each of the manifestation of ideas should be enumerated. The most economical way would be to enumerate each block systematically. Such a system is described as 'Classaurus'. This is a systematic scheme of Classification having all the features of a thesaurus, supplemented by a single alphabetical index giving address of manifestation of the ideas in the systematic form.

Caution The Classaurus is to be used for pre-coordinate indexing according to a set of postulates for syntactic structure formulated on the basis of decisions regarding the Base subject and the Core.

Self Assessment

State whether the following statements are true or false:

6. ……..can be applied to micro and macro level documents available in the form of non-print/non-book forms.
7. The ……..of analysis and synthesis is mainly guided by the POPSI-table of notations.
8. The deep structure of POPSI arises from the……., which should form the basic framework for any system of subject indexing.
9. The basic sequence of manifestations augmented by the interpolation and extrapolation of successive superordinates of each ……..manifestation.

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10. According to the implications of the general theory of the Subject Indexing Language, the standard vocabulary that controls the use of the different concepts, has got to be a ……thesaurus.

11.3 Preserved Context Indexing System (PRECIS)

PRECIS (Preserved Context Index System) was designed and developed by Derek Austin by about 1970 as an alternative procedure for deriving the subject headings and subject index entries for British National Bibliography (BNB). Since 1952, for nearly 20 years, BNB followed chain procedure for deriving subject index entries. Two most important factors worked for the development of PRECIS: (i) Idea of replacing chain indexing technique of BNB; and (ii) the decision of the British Library to generate computer produced BNB with all the indexes in view of launching the UKMARC project. Accordingly, a research project for a suitable alternative for generating subject indexes directly from the machine readable records were undertaken by the British Library with the following objectives, which ultimately resulted in the development of PRECIS:

(i) The computer, not the indexer, should produce all index entries. The indexer's responsibility would be only to prepare the input strings and to give necessary instructions to the computer to generate indexes according to a definite format.

(ii) Each of the sought terms should find index entries and each entry should express the complete thought content/full context of the document unlike the chain indexing where only one entry is fully co-extensive with the subject and others are cross references describing only one aspect of the complete content of the document.

(iii) Each of the entries should be expressive.

(iv) The, system should be based on a single set of logical rules to make it consistent.

(v) The system must have sufficient references for semantically related terms. PRECIS is now a recognized indexing model and has been adopted by a number of indexing agencies to produce subject indexes to a wide range of indexing tools like national bibliographies, library catalogues, indexes to audio-visual materials, musical scores, micro documents, etc.

The formation of subject headings in PRECIS is done in two stages. In the first stage, a human indexer does all the intellectual tasks of subject analysis to set the indexing terms in an input string according to the scheme of Role Operators. In the second stage, the computer generates the desired index entries from the input strings prepared by the human indexer.

In carrying out these tasks, the indexer needs to keep the following factors in view:

(a) An entry can be made under any terms likely to be sought in a string;

(b) Each entry should be intelligible, and it should state the subject unambiguously; and

(c) Entries should be consistent in structure, so that they collocate with those produced from other strings on similar themes.

The important criteria listed as (b) and (c) above can be met most effectively if the order of terms, in an input string, and also in an index entry, is founded on the principle of "context dependency". In order to set down the selected indexing terms from a document in the sequence of context dependency and to ensure that a team of indexers on different occasions, consistently arrive at the, same conclusions concerning the preparation of input string, a scheme of "Role Operators" are used. This `Scheme of Role Operators' specifies the grammatical role or functions of the term and regulates the order of terms in an input string, and thus establishes the relationships between

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the terms. Role Operators also serve as computer instructions for determining the format, typography and punctuation associated with each index entry.

Notes In addition to the Scheme of Role Operators, the use of Codes in an input string enables to bring expressive terms in the resulting index entries.

PRECIS is considered to be the first computerized pre-coordinate indexing model. The steps in these processes are:

- Content analysis of documents to determine their specific subject;
- Selecting appropriate indexing terms;
- Determining the role or status of each indexing term and putting the terms into the input string to fall into a sequence, based-upon the application of Role operators of PRECIS;
- Generation of index entries; and
- Alphabetical arrangement of entries.

As has been pointed out earlier, content analysis of documents is an activity independent of any indexing technique. The most important aspect of PRECIS is the preparation of input string by the human indexer, where each term is prefixed by a notation or the Role Operators that indicates how each term has to function, either as a lead term or lead-in term.

Let us take the following document title for the purpose of demonstrating the stages of concept analysis and assigning the appropriate role operators to prepare an input string.

Document Title: Reference Services in University Libraries in India.

1. Identify the concept signifying an action (if there be any). In the above example, the action concept is denoted by the term "Reference Services" and this term should be prefixed by the operator.
2. Identify the kind of action represented by the term, i.e. whether transitive action or intransitive action "Reference services" is clearly a transitive action since it is capable of taking an object. The object of transitive action is considered as the key system and is coded by the operator. In the present example, it is the "University libraries" which represents the object of action, so the input string would be
   - ❖ University libraries
   - ❖ Reference services
3. The term "India" signifies the environment (i.e. geographical location) in which the whole thing takes place. Accordingly, the operator (0) is to be prefixed to this concept and the resulting input string would be

   (0) India

   (1) university libraries

   (2) reference services

   According to PRECIS, an input string must contain any one of Primary Operators 0 to 3 or combination of them.
4. The next step is to identify whether there is any other concepts which may be denoted by any of the operators from 4 to 6 or by secondary operators. Here the term "libraries" is the

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part of "Universities'". Consequently, the above string is to be revised by coding "universities" with the operator and "libraries" with (p).

In order to achieve the principle of "Context dependency", a "Two-Line-Three-Part" entry format is followed. This entry format allows indicating the simultaneous relationship of the terms listed in the string and sets every term in its context.

- "Lead" is occupied by approach term or filing term and is offered as the user's access point in the index. This is printed in bold face to emphasise its significance as the primary filing element.
- "Qualifier" position is occupied by the terms) that sets the "Lead" into its wider context. The "Lead" and the "Qualifier" together is called "Heading".
- "Display" position is occupied by the term(s) of narrower context.

Did u know? The "Qualifier" and "Display" positions are not necessarily occupied in all index entries.

The standard vocabulary used in PRECIS incorporates the following aspects:

It is a structured vocabulary that includes the types of semantic relationship of equivalence, hierarchical and associative terms.

In PRECIS, the syntax and semantics are treated as separate components, and are handled by different procedures. The semantic aspects of PRECIS, i.e. establishing inter-relationships between the terms such as synonyms, BT, NT, and other related terms in a machine-held thesaurus serves as the source of "see" and "see also" references in the index.

However, a valid associative relationship is not always self-evident. In fact, there is no clear criterion to decide this relationship between concepts. In PRECIS, it is considered that two terms are linked by the associative relationship if they share an obvious semantic connection; they are not displaying either equivalence or hierarchical relationships. They are related in the sense if one thinks of one of the terms; the other term automatically strikes the mind. If "ichthyology" is the term referring to the name of a Discipline, "Fish" is its object of study, which strikes the mind automatically. An information retrieval thesaurus displays these types of relationships between concepts in an organized manner.

Self Assessment

State whether the following statements are true or false:

11. PRECIS (Preserved Context Index System) was designed and developed by Derek Austin by about 1950.
12. The indexer's responsibility would not be to prepare the input strings and not to give necessary instructions to the computer to generate indexes according to a definite format.
13. The formation of subject headings in PRECIS is done in four stages.
14. The use of Codes in an input string enables to bring expressive terms in the resulting index entries.
15. The most important aspect of PRECIS is the preparation of input string by the human indexer.

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Case Study

Some Suburban Libraries begin Turning Away from the Long-time Classification System

Score one for the library's bookstore-style layout. And shed a tiny tear for the Dewey decimal classification system, long the standard in the industry.

A handful of pioneering suburban libraries are transitioning from the librarian-loved but misunderstood Dewey to the type of organization system used by booksellers. The new layout groups books by subject rather than number, uses signs to highlight contemporary, popular categories, and displays books by their covers.

Critics say the new system is a nightmare for anyone trying to find a specific book that doesn't fit into an obvious category. Supporters counter that the system does what libraries should be doing: encourage people to read more books.

A library in south suburban Frankfort is among a small number of libraries nationwide that have switched entirely to the new format. Other libraries in Darien, Oak Park and Westmont are using it for parts of their collections, and Deerfield officials are considering it for the future.

Rakow, which is part of the Gail Borden Public Library District in Elgin, was designed to embody the new system when it opened in 2009.

Rakow is relatively small, with 32,000 items, but it attracts some 400 patrons a day who check out about 21,000 items a month, more than similar-size peers. Every fiction genre has a higher percentage of books checked out at Rakow than at Elgin's main library, and nonfiction gets checked out at almost twice the rate as at the Dewey-style main library. Part of the increase is attributable to Rakow stocking only the most popular, newer books, officials said, but the new system's appeal also plays a role.

Rakow uses a "de-emphasized" or "mash-up" system, in which books are grouped by category under large signs reading "In the News" for current events, or "New & Hot" for best-sellers, but are filed within each category by the Dewey numbers on the spines.

"For us, we can definitely say this appeals to people," Rakow library Director Margaret Peebles said. "They can pick up a book they wouldn't have found otherwise."

Still, Dewey remains by far the dominant system for organizing books. More than 200,000 libraries in 135 countries are estimated to use Dewey, making it the most popular book classification system in the world.

Named after the man who created it in the 1870s, librarian Melvil Dewey, the system groups all knowledge into 10 categories numbered 000 through 900, then subdivides further for each subject, moving from general to specific.

Dewey goes deeper and broader than bookstore headings, classifying books much more specifically, with 27,000 categories, compared with about 3,000 in the bookstore system, known as Book Industry Standards and Communications, or BISAC.

Long ago, most public libraries stopped using Dewey to group fiction books, instead putting them in alphabetical order by the author's last name. The new wave of non-Dewey classifications extends that concept to other popular subjects like diet and health or gardening, and sometimes pulls together books Dewey would keep far apart.

Contd....

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For instance, at Rakow, "Pack Your Bags" brings together travel books and language books, which would be separate under Dewey, but which people planning a trip often want together.

Some readers, like Gena McNamara of Elgin, remain sceptical.

While the system may be good for new books, McNamara questioned how easy it is to find works by genre, such as "Thriller" and "Horror," as she discovered when looking for movies.

"In whose eyes is it a comedy, a drama, or action?" she asked. "You'd have to look in three different sections … which are useless."

Some librarians share those concerns, calling BISAC part of a fad to dumb down libraries. They say libraries can be more user-friendly simply by putting better signs with subject headings on existing Dewey shelves.

Other librarians fear a lack of standardization will mean chaos when lending books between libraries, or for librarians working in different systems.

Rather than Dewey, most academic libraries use the Library of Congress classification, which is more efficient and specific for large collections and new technical material, but also more complex. The Chicago Public Library, which uses Library of Congress, tries to keep it user-friendly by separating the most popular or timely books into bookstore-style display areas.

The debate between Dewey and BISAC enflames passions in the stereotypically staid domain of librarians.

Question

Critically analyse the challenging task before these libraries.

Source:http://articles.chicagotribune.com/2011-02-18/news/ct-met-drop-dewey-20110218_1_dewey-decimal-system-main-library-newer-books

11.4 Summary

- Classification theorists believe that there is some sort of 'order of things' and that the 'order', which relates to the abstract world of ideas, can be made material in the form of highly conventionalized, symbolically annotated classification schemes.
- Classification theorists have attempted to 'discipline epistemology' in the sense of imposing main class structures with the view to simplifying access to knowledge in documents for library users.
- A number of classification theorists were particularly interested in the establishment of symbolic languages through notation.
- Knowledge organisation systems are first and foremost concerned with surrogates, in the case of library classification schemes, of symbolic notation standing in place of 'subject terms' representing 'concepts'.
- Classification experts and librarians have long recognized the potential of library classification schemes for improving subject access to information.
- For Ranganathan, notational language could at least theoretically function as a system of material signs signifying aspects of individual experience not translatable into 'natural language'.

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- Postulate-based Permuted Subject Index (POPSI), designed by Ganesh Bhattacharyya at the Documentation Research and Training Centre (DRTC), Bangalore, is another indigenous indexing model besides Ranganathan's Chain Procedure.
- POPSI is not based upon any particular system of classification but built around a set of fundamental theoretical ideas on classification both in the analysis of subjects as well as in the structuring of the names of subjects.
- PRECIS (Preserved Context Index System) was designed and developed by Derek Austin by about 1970 as an alternative procedure for deriving the subject headings and subject index entries for British National Bibliography (BNB).
- The formation of subject headings in PRECIS is done in two stages.
- PRECIS is considered to be the first computerized pre-coordinate indexing model.

11.5 Keywords

Content Analysis: Content analysis or textual analysis is a methodology in the social sciences for studying the content of communication.

Discipline: The practice of training people to obey rules or a code of behaviour, using punishment to correct disobedience.

Epistemology: Epistemology is the branch of philosophy concerned with the nature and scope of knowledge and is also referred to as "theory of knowledge".

General Classification Schemes: General classification schemes for libraries are concerned with mapping knowledge so that 'subjects' are differentiated from each other and the relationships between 'subjects' are spatially represented.

Knowledge Organisation: The term knowledge organization (KO) designates a field of study related to Library and Information Science (LIS) and is about activities such as document description, indexing and classification performed in libraries, databases, archives, etc.

Modifier: A person or thing that makes partial or minor changes to something.

Postulate-based Permuted Subject Indexing (POPSI): It has been designed and is in the process of further development, particularly in its application and can be applied to micro and macro level documents available in the form of non-print/non-book forms.

Preserved Context Indexing System (PRECIS): PRECIS (Preserved Context Index System) was designed and developed by Derek Austin by about 1970 as an alternative procedure for deriving the subject headings and subject index entries for British National Bibliography (BNB).

Subject-Index: Subject indexing is the act of describing or classifying a document by index terms or other symbols in order to indicate what the document is about, to summarize its content or to increase its findability.

11.6 Review Questions

1. What are General classification schemes?
2. Discuss how knowledge is represented in classification schemes.
3. Describe the uses for classification in online retrieval systems as describe by the Svenonius.
4. Define POPSI.

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5. What is the task of analysis and synthesis which is guided by the POPSI-table of notations?
6. "POPSI is not based upon any particular system of classification but built around a set of fundamental theoretical ideas on classification." Elucidate.
7. Highlight the elementary categories of POPSI.
8. Discuss the schematic presentation of the deep structure of a Subject Indexing Language.
9. Highlight the two most important factors worked for the development of PRECIS.
10. "The formation of subject headings in PRECIS is done in two stages." Explain.
11. "PRECIS is considered to be the first computerized pre-coordinate indexing model." Discuss.
12. Describe PRECIS Scheme of Role Operators and Codes.

Answers: Self Assessment

1. True
2. False
3. True
4. False
5. True
6. POPSI
7. Task
8. General Theory of Subject Indexing Language
9. EC
10. Faceted
11. False
12. False
13. False
14. True
15. True

11.7 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

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Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://en.wikipedia.org/wiki/Event-driven_process_chain

http://help.sap.com/saphelp_nw04/helpdata/en/8f/c08b3baaa59649e10000000a11402f/content.htm

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http://www.isibang.ac.in/~library/portal/Pages/chp5.pdf

http://www.iva.dk/bh/lifeboat_ko/CONCEPTS/chain_indexing.htm

http://www.multxpert.com/doc/md2011.pdf

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Unit 12: Library Catalogue Codes

CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Vatican Code
- Discuss the Classified Catalogue Code (CCC)
- Describe the Anglo-American Cataloguing Rules (AACR)

Introduction

The history of catalogues and cataloguing maintained until the middle of the nineteenth century shows that there was neither a uniform system for compilation of catalogues nor were the catalogues of any library prepared on the basis of some sets of rules and plan. Cataloguing used to depend on the flair of an individual cataloguer. Catalogues of the libraries were based on some sets of rules, drafted by an individual cataloguer in a casual way in accordance with previous traditions and practices of the library. Not much attention was paid towards the idea of proper functioning of catalogue, its growth with the collection of the library, entries, description, arrangement, style, and uniformity. Thus, the catalogue served no purpose other than an inventory. As the libraries grew is number and size, collection of books, number of users, and many other problems relating to the entries of books as well as approach to find out literature in the library, directed attention to the necessity of formation of some rules and codes for cataloguing purpose.

12.1 Vatican Code

The Vatican Code is an outcome of International co-operation in the field of cataloguing. The code was the result of a decision taken in 1927 to prepare a new catalogue of the printed books in the Vatican Library (Rome), which was in the process of reorganization.

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The Italian alphabetical catalogue rule of 1911 together with the ALA rules has established the basis of the codification of the Vatican rules. The first edition of Vatican Code contained 500 rules relating to the whole field of cataloguing author and title entries, description of works, subject entry, and filing. The part of the rules relating to the subject heading contains an excellent treatment of the fundamental principles of subject entry. The second edition appeared in 1939 in expanded form. It is also claimed as an international code. Next to the Cutter's rules, this was the other code that was a complete and comprehensive code covering all the aspects of cataloguing.

With respect to the library, the Vatican Secret Archive is another matter. It contains the documents concerning the central government of the Catholic Church. It is called "secret" because it is the private archive of the pontiff. He is its sole owner, establishing its norms and deciding whether to open it for consultation.

Did u know? Today, it can be consulted through the entire pontificate of Pius XI, meaning up until 1939.

The next section to be opened, the one dealing with the pontificate of Pius XII, will give free access up until 1958, but a wide selection of documents from the years of the Second World War has already been public for some time. Every day, 50-80 scholars from all over the world visit the secret archive. Its more than two million documents occupy 80 linear kilometres of shelving.

Task Do you think that Vatican Code is an outcome of International co-operation in the field of cataloguing? If yes give reason.

Self Assessment

State whether the following statements are true or false:

1. The Vatican Code is an outcome of International co-operation in the field of cataloguing.
2. The Italian alphabetical catalogue rule of 1921 together with the ALA rules has established the basis of the codification of the Vatican rules.
3. Every day, 10-20 scholars from all over the world visit the secret archive.
4. With respect to the library, the Vatican Secret Archive is another matter.
5. The second edition of Vatican Code appeared in 1959 in expanded form.

12.2 Classified Catalogue Code (CCC)

The Classified Catalogue Code (CCC) first published in 1934 as a unique contribution of Dr. S.R. Ranganathan from India aims at becoming a universal code. It is the first code complete in every respect for a classified catalogue. The subject approach has been recognized as the dominant one in CCC that has to be met by a catalogue. The foundation of the code is based on the normative principles and the canons of cataloguing which Ranganathan evolved in his "Theory of Library Catalogue". The code is developed on functional basis.

The classified catalogue code is free from the restriction of language unlike the other codes in spite of their non-local nature. It takes into account (i) language of the library, (ii) scale of languages, in which the language of the library comes first and the others come in the descending sequence of favouredness. The Classified Catalogue Code has established a landmark in the

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field of classification and cataloguing. The 5th edition of the catalogue code with additional rules for Dictionary Catalogue Code appeared in 1964.

Notes The CCC contributes great significance to the title page along with its overflow pages, which is basically based on the assumption that a cataloguer has ordinarily no authorization to go beyond the information promptly which are made accessible to him.

According to CCC, the heading form should be identified by the information which is made available on the title page and its overflow pages, independent of the reality that it may be the outcome in an incongruousness such as the same author seeming in more than one place in the catalogue. As this exclusive dependency is bound to in respect of the personal names, exclusion is made for the headings of the corporate body which is due to the reason that the name to be used as a heading which should be the one in the library favoured language, that sometimes might be dissimilar from the one provided on the title page. Despite the exclusions, CCC is as coherent as one can be in the conditions.

The Cataloguing practice of Dr. Ranganathan's was promulgated in 1974. Part N of the similar comprises additions and amendments to CCC, which will be contained in edition 6 of CCC.

Example: The Canon of Recall Value has been premised in Cataloguing practice. This is probably led to main modifications in the providing of the headings of the corporate body. He also brought out a dictionary catalogue code; the very first edition of which was printed in 1945 as well as the second one came out in 1952.

The fourth edition of the Classified Catalogue Code was promulgated in 1952 that provided requisite dictionary catalogue alternative rules, thus, eradicating totally the requirement for a separate dictionary catalogue code. This is also true about the 5th edition of CCC.

Self Assessment

Fill in the blanks:

6. The Classified Catalogue Code (CCC) first published in …….
7. The classified catalogue code is free from the restriction of language unlike the other codes in spite of their …….nature.
8. The Cataloguing practice of Dr. Ranganathan's was promulgated in……..
9. The Canon of ……has been premised in Cataloguing practice.
10. The ……edition of the catalogue code with additional rules for Dictionary Catalogue Code appeared in 1964.

12.3 Anglo-American Cataloguing Rules (AACR)

Even though it was continuously criticized and revised to suit the practicing cataloguers, the newer versions were not found satisfactory. Therefore, a more coherent and unified code therefore was demanded.

12.3.1 AACR 1 (1967)

The international conference on cataloguing principles (ICCP) convened in Paris in October 1961, adopted and accepted a statement of principles in whole or part by delegations from

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53 countries and 12 international organizations. The report of the international conference was issued in 1963. It drew upon Lubetzky's 1960 code and restated the objectives of both Lubetzky and Cutter.

The new code known as (AACR I) appeared in 1967 and was received by the profession with a mixed reaction. The rules in the code were organized in two parts, part 1 dealt with entry and heading consisting of four chapters, and part 2 covering description.

When work on AACR I began, books and periodicals were the basic and popular materials. Card catalogue was the norm. But when the code appeared in 1967, the situation changed vastly. As a result of technology, a variety of new media (non-book materials) found their way into libraries. Computer manipulation of data made possible other form of catalogue. The need to integrate the descriptive record of different forms of materials (book and non-book items) necessitated studies to find analogies between their characteristics. IFLA brought out a document entitled International Standard Bibliographic Description (ISBD) in 1971. This was later improved/revised and published in 1974 as International Standard Bibliographic Description for Monographic publications (ISBD (M)). Along with it, another standard for serials, viz., International Standard Bibliographic Description for Serials (ISBD (S)) was also published. The AACR 1 incorporated these documents and revised its chapters. Iola's International standards for other kinds of material including a general one followed in succession.

Caution This piecemeal revision was found unsatisfactory. It needed development of overall principles and integration of descriptive rules for various media.

12.3.2 AACR 2 (1978)

The second edition proved superior revealing basic principles that provided the structure of the code. The code presented the descriptive rules in part 1, which being with a general chapter can be applied to all materials in general followed by the chapters on specific media which are elaborations of the provisions of the general chapter. Part 2 included rules for determining and establishing headings/access points. These rules were also based on ISBDs (the general and specific ones). In the rules for access points, it worked out many terminological improvements to remove conceptual irritants, e.g., statement of responsibility in place of statement of authorship, corporate entry, instead of corporate author, etc. The standardized punctuation to conform to the pattern established in ISBDs.

12.3.3 AACR 2, 1988 Revised

The Library of Congress began the implementation of AACR 2 (1978) code in January 1981. Like the earlier edition (AACR 1), the second edition too appeared at a time when there were rapid developments taking place. AACR 2 resolved the problems of authorship more satisfactorily; the rules were found inadequate in dealing with new media. In course of implementation of the code, some rules presented themselves as confusing, insufficient, and complicated. Therefore, attempts were made to clarify, expand, or alter rules in necessary cases.

Three sets of revisions of AACR 2 comprising of geographical corrections, textual amendments, and altered and additional rules were issued in 1982, 1984, and 1986. These were followed also by a draft revision of chapter 9 for computer files. The code too came into wide use and found translations in many languages. The revised code, decided to be named as AACR 2, 1988 revision and not as 3rd edition. The revision sort to incorporate the editions and modifications already made as well as further revisions contemplated, viz., description of material for blind (tactile), rethinking of the concepts of the separate bibliographical identities, treatment of titles, author

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headings, geographical names and corporate bodies, corrections, rewording and addition of new examples. The rules are presented in two parts:

Part 1 Description: Chapter 1: General rules of description, Chapter 2: Books, pamphlets, and monographs, Chapter 3: Cartographic materials, Chapter 4: Manuscripts (including manuscript collections), Chapter 5: Music, Chapter 6: Sound recordings, Chapter 7: Motion picture and video recordings, Chapter 8: Cartographic materials, Chapter 9: Computer files, Chapter 10: Three-dimensional artifacts and realia, Chapter 11: Microforms, Chapter 12: Serials, and Chapter 13: Analysis.

Part 2 Heading, uniform titles and references: Chapters 21: Choice of access points, Chapter 22: Headings for persons, Chapter 23: Geographic names, Chapter 24: Headings for corporate bodies, Chapter 25: Uniform titles, and Chapter 26: References.

Part 3: It consists of appendixes, A: Capitalization, B: Abbreviations, C: Numerals, and D: Glossary, and an Index.

Cataloguing rules cannot be static; they must be allowed to respond to the changing need. Therefore, further revisions become necessary. So far the present, AACR 2 1988 revision is the latest in the Anglo-American family of codes.

Self Assessment

State whether the following statements are true or false:

11. The International Conference on Cataloguing Principles (ICCP) convened in Paris in October 1991.
12. The new code known as (AACR I) appeared in 1967 and was received by the profession with a mixed reaction.
13. The Library of Congress began the implementation of AACR 2 (1978) code in January 1951.
14. Cataloguing rules cannot be static; they must be allowed to respond to the changing need.
15. 2 resolved the problems of authorship more satisfactorily.

Case Study

Building Capacities - Resource Sharing in India

Resource sharing becomes more important and inevitable for developing countries like India, where the information centres/libraries are short of funds and resources. Further libraries find the space problem for storing purposes and hence they think about library networks and resource sharing. Resource sharing from its elementary concept of inter-library lending, now includes cooperative acquisition, collection development, shared cataloguing, centralised processing, exchange of content page of journals, sharing of bibliographical data, centralised periodicals collection, exchange of electronic documents and articles, obtaining photocopies of articles, etc. In India, in the past two decades, information technology has made significant progress. The current state of information handling is indeed sufficient to support and encourage the sharing resources among libraries. Especially, the present decade has witnessed renewed interest in library cooperation for mutual benefits, at the national and international levels.

The Institute of Economic Growth (IEG) was founded in 1958 by the late Professor V.K.R.V. Rao. The Institute is an autonomous, multi-disciplinary centre for advanced research and

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training in economics, agricultural economics, health, demography, and sociology and is a recognised institution of the University of Delhi. IEG's regular faculty consists of about 34 eminent social scientists.

At present the total collection of the library is 1,20,000 documents including books, monographs, workshop papers, proceedings of conferences, statistical serials. An equal number of Micro Documents comprising of Institutional Research Reports, Discussion, Occasional and Working Papers are also available. The library also has a wide collection of Annual Reports of Companies, Dept. of Central & State Government and other corporate bodies. The library holds a depository status for receiving publications of World Bank, United Nations and its allied agencies and other international organisations.

In addition to the 20,000 back volumes of journals, the library subscribes to 126 current journals, receives 52 journals in exchange and 126 current journals on as gratis. The library exchanges the Institute's research output and publications (including its journal, (Contributions to Indian Sociology) with similar institutions in India and abroad. In total, the library receives 304 journals.

IEG Library has documents and journals in the field of economics, economic development, energy, environment, finance, econometrics, mathematics, agriculture, forestry, industry, irrigation, sociology, social anthropology, gender, demography, health, etc.

At present, library has nine Computer Nodes including four nodes with Internet connectivity and CD-ROM Drive, one printer and one Laser Printer. All the nine nodes are connected with LAN. Faculty and researchers can access library databases39 from any nodes at their desk connected to network. It has got a photocopier also which is used to reproduce the documents on request.

IEG Library has the following databases for recording the different kinds of documents.

1. BOOKS	-	for Books	50,000 records
2. IELJR	-	for Journals	2,000 records
3. IELMR	-	for Serials	3,200 records
4. MD	-	for Micro-Documents	1,000 records
5. AR	-	for Annual Reports	800 records
6. APPBKS	-	for Current Arrivals	8,000 records
7. CD	-	for CD-ROMs	20 records

The Library has 4 computers with CD Drive and 20 CD-ROMs including Econlit, Popline, World Development Report, World Development Indicator, World Development Sources, TEDDY Online, Trade Policy Review, etc. Library has a well-organised reference section, which is equipped with latest reference books to provide ready reference and long range reference to its users. Generally reference queries are received through personal contact, telephonically and through E-mail. Library has E-mailing facility and provides various reference and documentation services more quickly to its readers through E-mail.

Library also provides CAS to keep seekers of information abreast with the latest developments in their responsive field. CAS includes the 'Arrivals This Week' document which is E-mailed to all the Faculty members, scholars and researchers on every Friday. It includes all the in-coming documents such as books, journals, annual reports,

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micro-documents, Working Papers and serials etc. Information available on various Newspapers is also disseminated regularly. New books, periodicals, micro-documents etc. are displayed regularly in the library.

Bibliographic service provided by IEG Library play an important role in helping the research scholars to complete the research work in time. It also provides short bibliographies on request to research scholars, IEG staff and institutions all over the India. Library also prepares Subject Bibliographies on request basis.

Today no library is self-sufficient to fulfil its users information needs, therefore arrangement is made to help the readers in getting the desired books and journals which are not available in the IEG Library on inter-library-loan basis from other libraries and research institutions in the country. Library has its networking with different libraries e.g. Rattan Tata Library, Delhi School of Economics, Delhi University Library System, NCAER Library, IIPA Library, NIPFP Library, DELNET and other reputed libraries in Delhi.

IEG Library is also a member of DELNET (Delhi Library Network), which gives access to several online databases of the different libraries such as Union catalogue of books, Union list of current periodicals in Delhi libraries, Union catalogue of periodicals in Delhi libraries, Database of periodicals articles, Books in print: New titles from Indian publishers and ILL online.

Question

Critically analyse the challenging task before these libraries.

Source: http://forge.fh-potsdam.de/~IFLA/INSPEL/01-1japk.pdf

12.4 Summary

- The Vatican Code is an outcome of International co-operation in the field of cataloguing.
- The first edition of Vatican Code contained 500 rules relating to the whole field of cataloguing author and title entries, description of works, subject entry, and filing.
- The Italian alphabetical catalogue rule of 1911 together with the ALA rules has established the basis of the codification of the Vatican rules.
- The Classified Catalogue Code (CCC) first published in 1934 as a unique contribution of Dr. S.R. Ranganathan from India aims at becoming a universal code.
- The CCC contributes great significance to the title page along with its overflow pages, which is basically based on the assumption that a cataloguer has ordinarily no authorisation to go beyond the information promptly which are made accessible to him.
- The Cataloguing practice of Dr. Ranganathan's was promulgated in 1974.
- The international conference on cataloguing principles (ICCP) convened in Paris in October 1961, adopted and accepted a statement of principles in whole or part by delegations from 53 countries and 12 international organizations.
- The new code known as (AACR I) appeared in 1967 and was received by the profession with a mixed reaction.
- When work on AACR I began, books and periodicals were the basic and popular materials.
- The second edition proved superior revealing basic principles that provided the structure of the code.

Notes

- The Library of Congress began the implementation of AACR 2 (1978) code in January 1981.

12.5 Keywords

Amendments: A change or addition to a legal document which, when properly signed, has the same legal power as the original document.

Anglo-American Cataloguing Rules (AACR): The Anglo-American Cataloguing Rules (AACR) is a national cataloguing code first published in 1967.

Catalogue Codes: Catalogue code refers to the principles, rules, and regulations for entering and describing books or other library material in a catalogue.

Classified Catalogue Code (CCC): The Classified Catalogue Code (CCC) first published in 1934 as a unique contribution of Dr. S.R. Ranganathan from India aims at becoming a universal code.

International Standard Bibliographic Description (ISBD): The International Standard Bibliographic Description (ISBD) is a set of rules produced by the International Federation of Library Associations and Institutions (IFLA) to create a bibliographic description in a standard, human-readable form, especially for use in a bibliography or a library catalogue.

Principles: A fundamental truth or proposition that serves as the foundation for a system of belief or behaviour or for a chain of reasoning.

Vatican Code: The Vatican Code is an outcome of International co-operation in the field of cataloguing.

12.6 Review Questions

1. Write brief note on the Vatican Code.
2. What is Classified Catalogue Code (CCC)?
3. Highlight the importance of classified catalogue code.
4. Discuss AACR 1 (1967).
5. "The second edition that is AACR 2 proved superior revealing basic principles that provided the structure of the code." Elucidate.
6. Describe the rules presented in revised AACR 2, 1988.
7. Explain the significance of AACR 2, 1988.

Answers: Self Assessment

1.	True	2.	False
3.	False	4.	True
5.	False	6.	1934
7.	Non-local	8.	1974
9.	Recall Value	10.	5th
11.	False	12.	True
13.	False	14.	True
15.	True		

Notes

12.7 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Online links

http://libguides.rutgers.edu/content.php?pid=179696&sid=1511751

http://polaris.gseis.ucla.edu/gleazer/296_readings/Strout.pdf

http://researchinlis.blogspot.in/2009/12/classified-catalogue-code.html

http://www.bath.ac.uk/library/services/qrcode.html

http://www.libcode.com.au/home/the-libcode-difference/code-catalogue/

Unit 13: Filling Entries Rules: CCC and AACR2

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CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Choice of Heading for the Main Entry
- Discuss the Choice and Rendering of Personal Names
- Explain the Pseudonymous Works
- Describe the Change of Name
- Explain the Corporate Authorship
- Discuss the Conflict of Authorship
- Describe the Role of Government
- Discuss the Government

Introduction

Many AACR2 rules cover the choice of headings for main entry – corporate name. Rule 21.1B2 directs us to use the corporate body as the main entry heading for administrative items, committee reports or other internal documents, and legal or governmental works holding the force of law.

Notes

Proper names as manifestations of a writer's style (i.e., subjective depiction of what is objective) are the object of literary onomastics. Anonymous and pseudonymous works are works in connection with which the true name of the creator is publicly unknown. The landscape of libraries and the profession of librarianship are constantly evolving. To limit the number of previous major versions of a document to retain when the document is approved, in the Document Versions section, select the Specify version limit check box, and then type a limit in the Number of versions to retain box. Enter under tag 110 if the publication deals with its own affairs; otherwise, main entry under title, and tag 710 for the corporate author. A corporate body is defined by a work that the corporate entity has created, rather than a person or persons who wrote the work. Government has a range of different departments and organisations to carry out its functions, and these should have a library or information service that supports the needs of their parent body.

13.1 Choice of Heading for the Main Entry

The Main Entry – Corporate Name (110 tag) of the MARC 21 bibliographic record contains a name heading for the corporate body or performing group responsible for the intellectual or artistic content of the work.

AACR2 covers main and added entries, "Choice of Access Points". The purpose of the main entry is to establish the form in which a work is to be uniformly cited. Using a main entry heading will make it easier for a library user to find an item listed in a bibliography or footnote.

In each cataloguing record one access point is chosen as the main entry heading. Main entry headings appear not only in a 110 tag (corporate name), but also in the 100 tag (personal name), the 111 tag (meeting name), or the 130 tag (uniform title). In addition, anonymous works, collections or works produced under editorial direction and some publications of corporate bodies use the title statement (245 tag) as the main entry. Corporate name headings not used as the main entry appear in the 710 tag.

In addition, use the corporate body as the main entry for liturgical works, religious laws, the collective work of performing groups, and cartographic material created by a corporate body. Rules 21.4–21.28 deal with choosing the main entry heading for works with single, shared, or mixed responsibility.

"Headings for Corporate Bodies", contains rules for constructing corporate names in AACR2 form. In many cases there is only one corporate body associated with an item, and the choice of the main entry heading is simple. When there is more than one body responsible for an item, the name that should be chosen for the main entry heading is usually listed first or in larger type. Some items are more complex and it is necessary to consult AACR2 for guidance. The most commonly used rules refer to sound recordings. For a classical recording, use the composer as the main entry, but for recordings of popular music use the principal musician or musical group (rule 21.23).

Subfield of the 110 tag usually contains the corporate name in direct order or the name of a jurisdiction (country, state, etc.). Older record may contain corporate names in inverted order. Subfield contains a subdivision of a corporate body. Subfield b may be repeated to show levels of hierarchy in an organization. Subfields c, d, and n contain information about the location, date, and number of meetings of a corporate body, such as, sessions of legislative bodies or annual meetings of corporations and organizations.

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

Notes

Did u know? For main entry, use the author predominantly named larger in typography. Make added entries for the others, if there are not more than 3 authors.

If the predominant author is not indicated, tag 100 is to be made under the first author, and tag 700 for the rest. If there are more than 3 authors, make a tag 700 for the first author and make main entry under title.

If there are editors instead of authors, enter under title. Make a tag 700 for each editor. If there are more than 3 editors, make a tag 700 for first one only. If the author unknown or uncertain; enter under title.

Artist and author: Make a tag 100 for the person chiefly responsible for the work. Make a tag 700 for the other one.

Editor and author: If editor simply went over the manuscript, do not make a tag 700 for him or her. If the editor has made his or her own contribution, for example, a criticism, also make a tag 700 added entry for the editor.

13.1.1 Main Entry for One Composer, 3–5 Works

- Enter under composer/collective uniform title (100/240) appropriate to the item as a whole
- Make name/uniform title added entries (700/‡t) for each work
- This does not apply to all of a composer's works of one type or medium or to a collection of a consecutively numbered group of works; to collections of non-classical music; or to multi-disc collections that are not yet complete.

13.1.2 Main Entry for One Composer, 6 or More Works

- Enter under the name/collective uniform title (100/240) appropriate to the item as a whole
- Make name/uniform title added entries (700/‡t) as follows:

    1. If the works may be divided into not more than five groups of three or more works, for each of which a collective uniform title naming a type would be appropriate, make a name/uniform title added entry for each group. Translation: use up to five collective uniform titles. OR
    2. If some of the works can be grouped as in #1 above and others cannot, and the groups and the remaining individual works together add up to five or less, make a name/uniform title added entry for each group and for each of the remaining works. Translation: use up to five collective and individual uniform title. OR
    3. If neither #1 or #2 above can be applied but one of the works is featured, make a name/uniform title added entry for that work; in addition, make a name/collective uniform title added entry appropriate to the remaining works if it is different from that used in the main entry. Translation: if it is impossible to limit the name/uniform title added entries to five collective and/or individual uniform titles, use a name/uniform title for any work that is featured on the item and make a collective uniform title for the rest of the works, as long as that collective uniform title does not end up being the same as the collective uniform title in the 240 field.

Notes

Self Assessment

State whether the following statements are true or false:

1. Rules 21.4-21.28 deal with choosing the main entry heading for works with single, shared, or mixed responsibility.
2. Subfield of the 120 tag usually contains the corporate name in direct order or the name of a jurisdiction.

13.2 Choice and Rendering of Personal Names

A personal name is a proper name identifying an individual person, and today usually comprises a given name bestowed at birth or at a young age plus a surname. It is nearly universal for a human to have a name; except in rare cases, for example feral children growing up in isolation, or infants orphaned by natural disaster for whom no written record survives. The Convention on the Rights of the Child specifies that a child has the right from birth to a name. Certain isolated tribes, such as the Machiguenga of the Amazon, also lack personal names.

Notes Naming conventions are strongly influenced by culture, with some cultures being more flexible on naming than others. However, for all cultures where historical records are available, the naming rules are known to change over time. The academic study of personal names is anthroponymy.

The main groups of proper names singled out in fiction texts are anthroponyms and toponyms. Anthroponyms are names, surnames, nicknames or pseudonyms – they describe the characters in various ways (directly or indirectly; this is partly predetermined by the genre of a work of fiction and an author's intentions). The same can be said about toponyms. If dealing with proper names in translated works in another language, not their translation, but rendering is taken into consideration. Rendering of such names in a fiction text cannot be separated from the motivation for their selection in the original; that is why both the strategy of a translator and the hierarchy of proper name equivalents in the translation of a work are closely related with an author's intentions.

"In general, 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."

"Determine the name by which a person is commonly known from the chief sources of information of works by that person issued in his or her language. If the person works in a non-verbal context (e.g., a painter, a sculptor) or is not known primarily as an author, determine the name by which he or she is commonly known from:

- Reference sources, as used in this chapter, include books and articles written about a person.
- Reference sources issued in his or her language or country of residence or activity."

In cases when usages of a name vary in fullness from one item to another, LCRI 22.3A defines the predominant form as the form appearing in 80% of the author's works. If the form found on the item being catalogued does not agree with the form already in use as the heading, choose as the AACR2 form the form found in 80% of the author's works as the most commonly found form (counting forms appearing on bibliographic records in which the heading is used in both main

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and added entries but considering only usage found in the bibliographic description (primarily statements of responsibility) not headings appearing as main or added entries). (The form found in the chief source of a person's thesis is taken into account when choosing the form to be used in the heading.)"

In February 2009, this was changed to:

"If the forms of a name vary in fullness, choose the form most commonly found. ... If no one form predominates, choose the latest form. In case of doubt about which is the latest form, choose the fuller or fullest form."

Notes That literal transcriptions may appear elsewhere in a record, e.g., as part of the title proper, in an "at head of title" note, in a quoted note, etc. In deciding whether a transcription is a literal one, care must be taken to insure that the transcription has not been altered in some way by cataloguing conventions used at the time the transcription was made, e.g., by abbreviation or by omission.

Personal names are the names, surnames or nicknames of characters that were created by an author as well as of real individuals. First of all, it should be mentioned that the present paper does not take into consideration the types of name systems in works of fiction, i.e., main, secondary or episodic characters, names which are mentioned in an author's text or in a dialogue of characters, etc. And this is not related to the author's intentions and motivation for a particular choice; it only reflects it. However, it is impossible to completely disregard it, as the revelation of an author's idea requires from a translator some specific knowledge, sharp eye and sophistication. Moreover, indeed, the most important and complicated thing is to transfer names of main characters.

Self Assessment

Fill in the blanks:

3. A …….is a proper name identifying an individual person, and today usually comprises a given name bestowed at birth or at a young age plus a surname.

4. Naming …….. are strongly influenced by culture, with some cultures being more flexible on naming than others.

13.3 Pseudonymous Works

The Copyright Act defines a pseudonymous work as a work where the author's identity is provided as a fictitious name (such as where an author publishes a book under a pen name). It does not matter if the public actually knows who the author is – if the copies or phono records do not include the author's actual identity, but instead include a fictitious name, the work is pseudonymous.

In order to allow the creators of anonymous and pseudonymous works to get the full benefits of the protection by a copyright, it is possible to have an anonymous or pseudonymous work and the actual authorship thereof registered in the register of authors run by the German Patent and Trademark Office. Thus, not only the personal claim of the creator to the copyright relating to his work can be proved, but also the protection period of the work in question is extended in accordance with the Copyright Act.

Notes

In the case of a literary, dramatic, musical or artistic work (other than photograph), which is published anonymously, copyright shall subsist until. Sixty years from the beginning of the calendar year next following the years in which the work is fist published. In this regard S.3 of Act No.13 of 1992 reads: "3. Copyright not to subsist if term has expired - For the removal of doubts, it is hereby declared that copyright shall not subsist by virtue of this Act in any work in which copyright did not subsist immediately before the commencement of this Act."

In sub section (1), references to the author shall, in the case of an anonymous work of joint authorship, be construed:

- Where the identity of one of the author is disclosed, as references to that author.
- Where the identity of more author than one is disclosed, as reference to the author who dies last from amongst such authors.

In such section (1), references to the author shall, in the case of a pseudonymous work of joint authorship, be construed:

- where the names of one or more (but not all) of the authors are pseudonymous and his or their identity is not disclosed, as references to the author whose name is not a pseudonym, or, if the names of two or more the authors are not pseudonymous, as references to such of those authors who dies last,
- where the names of one or more (but not all) of the authors are pseudonyms and the identity of one or more of them is disclosed, as references to the author who dies last from amongst the authors whose names are not pseudonymous and the authors whose names are pseudonyms and disclosed, and
- where the names of all the authors are pseudonyms and the identity of one of them is disclosed, as references to the authors whose identity is disclosed or if the identity of two or more of such authors is disclosed, as references to such of those authors who dies last.

Caution For the purposes of this section, the identity of an author shall be deemed to have been disclosed, if either the identity of the author is disclosed publicly by both the author and the publisher or is otherwise established to the satisfaction of the Copyright Board by that author.

Often, writing under a pseudonym is as easy as putting the phrase "writing as" on your manuscript. For articles, short stories, and poetry, you can simply put your real name in the upper left corner of your manuscript (or on the cover page), and list your pen name as your by-line beneath the title. However, to ensure that your editor publishes the work under the "correct" name, you may want to remind the editor in your cover letter that you are "writing as" your pseudonym.

The Copyright Office offers several ways to register pseudonymous works. The first, and safest, is to record your legal name under "name of author," followed by your pseudonym (e.g., "Mary Smith, writing as Marianne Carmichael"). You should also check "yes" to the question, "Was this author's contribution to the work pseudonymous?" If you don't wish to reveal your identity, you can both provide your pseudonym only and identify it as such (e.g., "Marianne Carmichael, pseudonym") or leave the author space blank. You can also use your pseudonym in the "copyright claimant" line, though the Copyright Office warns that using a fictitious name here could raise legal problems regarding ownership of the copyright and suggests that you consult a lawyer first.

Notes

Unfortunately, it is no longer as easy to keep your real name a secret from your publishers. In the past, one could often use a pseudonym for all editorial correspondence, and simply make an arrangement with one's bank to have checks deposited under one's pen name. Now, however, publishers are required to inform the IRS of payments made to writers, which means that they must have your social security number and your real name. However, if you are using an agent, you may be able to handle such payments through your agent and not reveal your identity to publishers.

The final thing to keep in mind when using a pseudonym is; it will not protect you from any legal action that might result from your writing. A pseudonym has no existence as a "legal" entity; no matter what name you put on your work, the ultimate responsibility for that work always rests on you.

Self Assessment

State whether the following statements are true or false:

5. The Copyright Act defines a pseudonymous work as a work where the author's identity is provided as a fictitious name.

6. The Copyright Office offer only one way to register pseudonymous works.

13.4 Change of Name

Libraries within primary and secondary schools have experienced name changes as well. The name of the physical space has tried on a few different descriptors, from plain old school library to media centre to learning commons. The title of the person who works in that setting has also varied and been subject to contention. In 2010, the American Association of School Librarians voted to recognize School Librarian as the official job title of their profession, replacing the previously preferred designation, School Library Media Specialist. This decision met with some controversy. One blogger who objected to the change advocated instead for another common title, Teacher Librarian. In this case, the titles did more than describe the job – they established the role of the librarian firmly within the educational system.

The word "library" may conjure up an image of an old building smelling of even older books in the mind of the public and "librarian" may still make many people recall a shushing spinster. In reality, the 21st century library and the 21st century librarian have moved light years beyond those worn-out stereotypes. Today's library is a transformed space that exceeds its physical boundaries and reaches into cyberspace. Today's librarian must be tech savvy and remain attuned to a body of users with an enormous range of needs and aptitudes. Meanwhile, the language used to describe libraries and librarians has kept pace with the changes in the field, in some cases leading to confusion among users and controversy among practitioners.

On the Change Document Library Settings page, you can do the following:

- Change the name and description of the document library, the contact name and e-mail address, and the version limit.
- View the name of the portal site that is associated with the document library.
- Find links to manage document library security, document profiles, and content sources.

In order to change the settings for a document library, navigate to the Change Document Library Settings page by doing one of the following: On the SharePoint Portal Server Central Administration for server name page, in the Component Configuration section, click Configure document libraries (Web Storage System-based). On the List and Manage Document Libraries

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page, click Edit for the document library that you want to change. On the Site Settings page, in the Optional Document Libraries section, click Change document library settings.

On the Change Document Library Settings page, in the Name and Description section, do the following:

- In the Document library friendly name box, type a name for the document library.
- In the Document library description box, type the description for the document library.

In the Document Library Contact section, do the following:

- In the Contact name box, type the name of the user or group to which you are assigning overall responsibility for the document library.
- In the Contact e-mail address box, type the e-mail address for the contact.

The contact e-mail address can be that of an individual user or a group. This e-mail address is used as the reply-to address for e-mail messages sent by the document library during document approval routes.

Task How will you change Document Library Settings page?

Self Assessment

Fill in the blanks:

7. The word ……..may conjure up an image of an old building smelling of even older books in the mind of the public.
8. The title of the …….who works in that setting has also varied and been subject to contention.

13.5 Corporate Authorship

Corporate authorship has always been a problematic issue, but at the 1961 ICCP, corporate bodies were recognised as important access points to bibliographic information, and general principles on corporate entry were laid down in section 9 of the Statement of Principles. However, in spite of the almost unanimous acceptance of these principles, already Verona's comments in the 1971 edition indicated that there was a large gap between practice and theory. To be able to narrow that gap the need was felt for further analysis. It was undertaken by Verona; the outcome was published in 1975 as Corporate Headings: Their Use in Library Catalogues and National Bibliographies). In her introduction to the report Verona wrote that 'as yet no international standardisation as to application, interpretation, form and structure of corporate bodies has been achieved', and she noted that 'most of the procedures as prescribed by various codes or adopted by cataloguing practices, etc., have a distinct tendency to cling to the long-standing cataloguing traditions of their own country.'

Verona submitted the main problems to a critical analysis and also drew attention to differences with regard to technical details such as punctuation, capitalisation, transliteration, etc. She commented that the 'complete lack of uniformity' was a very serious obstacle for effective universal bibliographic control, and argued that national barriers had to be broken down, that national and local interests should give place to international interests. Differences in practical application should be reduced to a minimum; complicated and over-elaborate rules should be avoided, as the average user would not understand them. Later research on catalogue use has

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confirmed that. Verona also delivered a set of 'Suggestions', in which she advocated a framework in which variations dictated by national interests are eliminated and simple solutions are given.

A corporate author is defined as "an organization or a group of persons that is identified by a particular name and that acts, or may act, as an entity" (Wynar, 1992).

Corporate authorship did not appear until the middle of the 19th century (Chan, 1981). Cataloguers began to classify books by the person who was responsible for its creation. As defined in the ALA 1908, ALA 1941, ALA 1949, AACR 1967, and the AACR 2, the author is the person or person who is responsible for creating the work intellectually and artistically.

Corporate authorship is more difficult to define for some cataloguers. The book is defined by its author and title, but when a corporate entity is responsible for the book, it can lead to some problems. Some questions may arise for the cataloguer; who was the person who actually wrote the work? Shouldn't the cataloguer give the person/persons credit who wrote the work? Corporate authorship is also different in nature than personal authorship. Personal authorship is the author's or editor's creation or compilation. A personal author will create something to contribute to society, in the form of a creative literary work, a journal article, film, sound recording, or a photograph. A corporate work is generally published to promote a product, or their company. Some corporations will publish transcripts of conferences, official documentation of their company. Corporate authors create publications that deal with the corporate body itself. The actual writers behind the work are in the background, and they must represent the corporation. Some corporations will publish annual reports, their company profile. Some corporate authors, such as the government, will publish government documents periodically to discuss a topic like "education policies in the province of Ontario from 1980-1990." There is a chief writer, or many writers, but they do not receive credit for their work. They represent the corporate body, and they are not recognized as individuals. Their work is not recognized as being personal, but representative of the corporation or a governmental agency. They leave their personal identities behind them when they create this publication.

Notes The corporate author's name should appear in full, followed by a period and two spaces (prior to the next part of the entry). Even if the corporate author and the publisher are the same, the corporate author's name should still appear in the author (as well as publisher) position of a bibliography entry.

In the AACR 2, there is a shift in language from corporate author to corporate body. This results in giving credit to the institution as a whole for the publication, rather than a team of writers and researchers who deserve the credit. Since the ISBD will contain the corporate body as the main entry, it will be difficult to track down the team of writers who wrote the publication.

The AACR 2 treats the corporation as the author. In some publications like the World Directory of Al-Anon Family Groups and Ala-teens, the corporate body (Al-Anon Family Group Headquarters) is responsible for the work, thus it is the main entry (Wynar, 1992). This can be somewhat related to the fashion industry. When many young designers work as apprentices to top designers like Calvin Klein, Donna Karan, and Ralph Lauren, they may design new creations, but they do not receive the credit or recognition, because their work is catalogued according to the corporate body.

Self Assessment

State whether the following statements are true or false:

9. Corporate authorship is simpler to define for some cataloguers.

Notes

10. The actual writers behind the work are in the background, and they must represent the corporation.

13.6 Conflict of Authorship

Conflicts about authorship have been increasing, research shows. According to a 1998 study in the Journal of the American Medical Association by Linda Wilcox, the ombudsperson at Harvard's medical, dental, and public-health schools, the percentage of complaints about authorship at the three institutions rose in the 1990s. Such grievances ranged from people feeling that they were not being given credit as first author, even though they were promised it, to people feeling that their work merited first authorship even though they merely performed experiments and did not design or write up the research. Wilcox's research found that authorship-related queries to her office rose from 2.3% of total complaints in 1991 to 10.7% in 1997. Between 1994 and 1997, 46% of the queries were from faculty and 34% were from postdoctoral fellows, interns, or residents.

Other studies, cited by Eugene Tarnow, point to the issue of plagiarism as a problem, too. A 1993 study looked at perceived misconduct in a survey of professors and graduate students in four disciplines over a period of five years. Inappropriate co-authorship was slightly greater than plagiarism as a problem. Plagiarism was a problem of graduate students, while inappropriate co-authorship was a problem mostly of faculty.

If a conflict arises between a junior scientist and a senior scientist regarding authorship, experts recommend that the disagreement should first be addressed within the group of authors and the project leader. Should that not lead to a satisfactory solution, the junior scientist can seek guidance from other members of the department, student organizations, representatives in an office of postdoctoral affairs, or the ombudsperson at the institution.

The ombudsperson is a neutral party who, if he or she is a subscriber to the standards of the national ombudsperson's organization, will discuss the situation and will not keep records of the conversation. The ombudsperson can discuss the concerns confidentially, help identify the issues, interpret policies and procedures, and offer a range of options for determining who deserves authorship or whether there are other issues. Interpersonal problems (such as personality problems between a senior scientist and a junior scientist), jealousy (such as regarding a new person in a laboratory getting the senior scientist's attention), and cultural issues (foreign scientists may have different criteria for authorship) may be factors in authorship disputes.

Caution One of the options that the ombudsperson might suggest is mediation, in which the two parties meet with the ombudsperson and attempt to come to a mutual agreement. If negotiation and mediation fail to work, the injured party may then choose to make a more formal complaint with the dean's office, which would have a committee that investigates these kinds of issues.

Individuals must be able to distinguish between disagreements over allocation of credit and misconduct, Kathy Barker writes in Science's Next Wave in 2002. If someone has evidence of plagiarism, fabrication, or falsification of data, that is a more serious concern, and contacting a lawyer might be helpful as one proceeds to inform members of the institution about evidence.

All persons named as authors are assumed to have contributed substantially to both of the following:

1. The theoretical conception and formulation of the submission, the design and implementation of any associated empirical study, or the analysis and interpretation of data; and

Notes

2. The writing and critical revision of the text for important intellectual content. It is the responsibility of the first author not only to submit manuscripts to JIMS but also to ensure that all authors approve of the exact final wording of all submitted manuscripts.

Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship. All persons designated as authors should qualify for authorship, and all those who qualify should be listed. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content. The order of authorship should be a joint decision of the co-authors. Authors should be prepared to explain the order in which authors are listed. All contributors who do not meet the criteria for authorship should be listed in an acknowledgments section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair that provided only general support. Financial and material support should also be acknowledged. Because readers may infer their endorsement of the data and conclusions, all persons must give written permission to be acknowledged.

Public trust in the peer review process and the credibility of published articles depend in part on how well conflict of interest is handled during writing, peer review, and editorial decision making. Conflict of interest exists when an author (or the author's institution), reviewer, or editor has financial or personal relationships that inappropriately influence (bias) his or her actions (such relationships are also known as dual commitments, competing interests, or competing loyalties). These relationships vary from those with negligible potential to those with great potential to influence judgment, and not all relationships represent true conflict of interest. The potential for conflict of interest can exist whether or not an individual believes that the relationship affects his or her scientific judgment. Financial relationships (such as employment, consultancies, stock ownership, honoraria, paid expert testimony) are the most easily identifiable conflicts of interest and the most likely to undermine the credibility of the journal, the authors, and of science itself. However, conflicts can occur for other reasons, such as personal relationships, academic competition, and intellectual passion. All participants in the peer review and publication process must disclose all relationships that could be viewed as presenting a potential conflict of interest. Disclosure of these relationships is also important in connection with editorials and review articles, because it is can be more difficult to detect bias in these types of publications than in reports of original research. Editors may use information disclosed in conflict of interest and financial interest statements as a basis for editorial decisions. Editors should publish this information if they believe it is important in judging the manuscript.

Self Assessment

Fill in the blanks:

11. Individuals must be able to distinguish between …….over allocation of credit and misconduct.

12. The order of authorship should be a joint decision of the…….

13.7 Government

Libraries all over the world have always been recognised as an important social institution which helps in spreading the literacy and inculcating the reading habits among large section of population. Governments world over were sensitive enough to realise this very mission of the libraries and Indian Government have never been lacking behind to understand this aspect. Historically speaking, India has long and rich traditional in education, arts, culture and scientific research. The Seventh Plan Working Report of the Planning Commission states that "No community, institution or organisation is considered complete without a good library services.

Notes

The gradual spread of the concept of democracy of socialist pattern of society, the extension of education, the intensification of research activities, the rapid increase in the production of recorded knowledge both in print and non-print forms, and vast innovations in information and communication technology have led to the expression of libraries, information centres and systems as well as development of their services."

Libraries of government departments provide information to policymakers, to government staff and employees and, sometimes, to the general public.

Did u know? It is essential that libraries of government departments are organised and managed so as to collect and provide the information most needed by government decision makers, government workers, and the public at large.

Libraries of Government Departments are any libraries that are established and fully supported by government to serve government. (While their primary audience is government, the actual audience served may be broader than government.) Under this definition a public or university library, though it might have been created by government or provide services to government employees or the public, would not be defined as a "government library" because the primary audience would not be defined as a government department but the general public or the student and faculty population.

These libraries have a key role to play in their organisations and should be at their core. They may also have an important role to play in a country's national information structure. The primary function of government libraries is to serve government at different levels by making available all kinds of information published by government and non-government bodies and individuals. Their clientele are elected representatives, ministers, administrators, scientists and other specialists, researchers, and, in some cases, the general public. The number of libraries may be considerable, and they can differ widely in size and scope. Libraries have a responsibility to contribute to and support the goals of the parent organisation and to support the basic functions of their parent bodies such as: the formulation of programmes and policies; administrative and regulatory actions; advisory functions; and research programmes.

Management tasks for government libraries are not very different from the management tasks for other libraries. Many government libraries are small, and they work within a larger organisation. The strategic direction of the library is set by the government organisation, and the customers are defined by the organisation. Most government libraries will serve the staff of the organisation, although some government libraries will also work directly for the public. In this information age, there are always improvements to be considered about the provision of library services. There are a number of ways for staff to keep up with trends by reading library journals or articles on the internet, attending conferences and other professional events, or visiting other libraries to see what they are doing. This benchmarking process allows staff to borrow ideas from other organisations and see what has worked well for other libraries. Ideas may also be borrowed from other industries outside the library and information sector. Making better use of technology is a good way to make library services more effective and to allow for the provision of services to more customers at a reduced cost.

The lifespan of different governments will vary and departmental priorities can change radically along with the underlying philosophy of the political party or regime in power. Government libraries are long term entities and must, by their very nature, span many shifts in power. The major problem is that government libraries thus compete for limited resources with many other shorter term pressing issues in a department. Building alliances with core users is, therefore, critical to the success and indeed the survival of the library. Key to building these alliances is the identification and fulfilment of the needs of users. Many government libraries were created

Notes

many years ago and a periodic review of the clientele, their needs, and their reason for being can be useful. In order to build these alliances and deliver the best service possible, libraries of government departments must understand the needs of their users. Libraries must have a method of assessing needs to ensure that they collect resources of interest and use to their customers and deliver the most needed and valuable services. If the government or department does not find the library relevant to its information and staff needs, it may lead to a reduction in financial and other support for the library.

The needs of all categories of users must be evaluated regularly and systematically. Personal meetings and contacts, surveys, data collection, usage statistics and continuous communication with the user population are all essential. Record keeping in itself is not as important as the resulting improved service to users. After identifying who they are, non-users of the library and its services should also be contacted to determine if they are aware of the library's services and why they do not use them.

Self Assessment

State whether the following statements are true or false:

13. Libraries of government departments provide information to policymakers, to government staff and employees, and, sometimes, to the general public.

14. Management tasks for government libraries are not very different from the management tasks for other libraries.

13.8 Conferences/Congresses and Meetings

If the work is contains proceedings or papers from a conference, create a tag 111. Otherwise, the main entry of the work is under title and a tag 711 is used. The appropriate rule is 21.1B2D. LC is not very consistent here. If there are two conferences in the same publication, make a tag 711 for the second one.

Literature regarding Congress or Conference comprises of:

- Agenda,
- Minutes,
- Resolutions,
- Report of proceedings,
- Papers contributed,
- Memoranda, etc.

The simple definition of Conference has been given by the AACR2, the term Conference used by CCC to cover congresses, meetings, etc. It has also given a clear explanation of organ conference. Also in CCC such kinds of corporate authorship have not been dealt under conference publications rules.

However, if the abbreviation or name of a name is of a body to which the meeting is subordinate.

Example: An association annual meeting.

24.3C2: Ancient and international bodies. If the name of a body of ancient origin or of one that is international in character has become firmly established in an English form in English language usage, use this English form.

Notes

25.3F2: If a conference has both a specific name of its own as well as a more general name as one of a series of conferences, use the specific name.

Instances of bodies to which this rule is applicable are:

- Religious bodies,
- Fraternal and knightly orders,
- Church councils, and
- Diplomatic conferences.

If it is essential to set up a heading for diplomatic conferences which has no formal name as well as which has not yet took a conventional name, use the name found most usually in periodical newspaper and articles accounts in English. Later if another name becomes founded, modify the heading to that name.

Example: Library Conferences at Canada

Access is a library technology conference that moves location on an annual basis. Hackfest, a popular event within the conference, acts as an opportunity for interested parties to collaborate on solving real world library problems.

The annual conference of the Canadian Library Association shifts locations every year. Each gathering is designed to address trends in libraries and examine how larger shifts in publishing can affect the industry.

MagNet is Canada's only national professional development conference for the magazine industry, held annually in Toronto in the spring. MagNet is produced collaboratively by key industry associations and provides targeted and exclusive programming.

The Manitoba Libraries Conference acts as an opportunity for those in the library community to network and review trends in the library industry.

Self Assessment

Fill in the blanks:

15. If the work is contains proceedings or papers from a……., create a tag 111.
16. The simple definition of Conference has been given by the ……...

Case Study

Butting Heads "Conflict Resolution for Postdocs, Part I"

About a year after leaving his postdoc, Rohit (a pseudonym) got an e-mail from his postdoc adviser about a paper he was going to submit for publication on Rohit's work. To Rohit's surprise, his adviser had made him second author instead of first author. The reasoning was that after Rohit left, another postdoc had reproduced some of Rohit's experiments and succeeded in another experiment where Rohit had not.

But Rohit didn't think that was fair, because he felt that he had done all the thinking behind the experiments and most of the work. He even offered to share first authorship

Contd....

Notes

with the other postdoc, although he wanted to be listed first. But his adviser could not be swayed. "What it boiled down to was I had to accept being the second author, or have my name removed," Rohit recalled.

Unfortunately, many postdocs have probably encountered situations like this. Conflicts can run the gamut including issues such as authorship, intellectual property, mentoring, a hostile adviser or lab environment, discrimination, harassment, salary, or vacation time. While many postdocs may privately fume, they ultimately accept the situation, not realizing what their options are and generally not wanting to jeopardize their career. Foreign postdocs, in particular, may come from cultures that discourage making waves, or they fear jeopardizing their visa status. It's not clear how many postdocs ever go as far as filing formal complaints, but the numbers are probably relatively small.

In Rohit's case, he already had a job at a biotech company by this time and even though the paper wasn't important for his career, he decided to fight for first authorship out of principle. He found out that his department had set up an ethics committee for postdoctoral fellows, and the chair of the committee was very supportive and helpful about what to do. In a conference call with the full committee, Rohit discussed the thought processes and sequence of experiments that led to the paper, reconstructed from his lab notebooks and e-mails between him and his adviser over his time as a postdoc. On separate occasions, the committee also heard from his adviser and the other postdoc.

Ultimately, the committee sided with Rohit, agreeing that the work was essentially his, and recommended that both postdocs be first co-authors. Rohit was insistent on being listed first, which his adviser finally accepted after the matter went back to the committee, who agreed with Rohit. The paper has since been published.

Rohit took the path recommended by most institutions that have clear procedures on how to resolve conflicts, and was fortunate that his department had already set up a committee to hear postdoc grievances. Generally, institutions encourage going through more informal channels first, trying to work out the problem with your adviser. If that doesn't work, go to your department chair, who can try to resolve the dispute, perhaps with the aid of a faculty committee.

You can also pursue avenues outside your department. For example, more and more schools fortunately now have offices of postdoctoral affairs or postdoctoral associations, which can be a great resource for help or advice. If your institution has one, an ombudsman also can help.

The human resources office may also be an option. John Leviathan at the J. Gladstone Institutes (an independent institute affiliated with the University of California, San Francisco), for instance, is a human resources manager whose job is to deal with postdocs. Postdocs are always free to call him about grievances, he says, and once every 2 weeks he meets with postdocs as a group to hear about any general issues they have, such as a lack of business cards. Leviathan also conducts exit interviews to help improve the lot of future postdocs, which is when "all the juicy stuff comes out." But he says he hasn't had to deal with scientific issues such as authorship, which are probably resolved at the level of the mentor or the institute's director.

If the situation still can't be resolved, depending on the kind of institution, the dean, vice provost of research, institute director, or similar administrator can get involved. If you think you've been subject to discrimination, another option is your institution's equal opportunity office.

Contd....

Notes

At Vanderbilt University, Office of Postdoctoral Affairs Program Coordinator Susan McMillen says that they hold individual orientations with postdocs when they arrive, which has helped to reduce the most common complaints about salary, benefits, and visas. The orientations were originally done only for foreign postdocs, she said, but they found that each situation was unique enough that it was worth doing them for everyone.

But the varied ways that postdocs are classified can leave them out in the cold on how to deal with conflict at many institutions. For example, at the Medical College of Georgia, L. D. Newman, who has a half-time appointment as the director of the 6-month-old Office of Postdoctoral Affairs (the other half is as one of the college's general counsels), says that their postdocs are limited in where they can go to resolve conflicts because postdocs don't fit into any of the university's three categories of people (students, faculty, and classified employees).

So far Newman's office has been able to resolve some disputes through the university's policies on research misconduct and conflict of interest, which covers scientific issues such as authorship. "What we don't have at present is a policy that would allow a postdoc to file a grievance based on a human resources complaint," such as salary or an abusive mentor, Newman says. Right now, she says postdocs come to her and she acts as an advocate on their behalf, but she's in the process of drafting a new grievance procedure for postdocs.

At Stanford University, where postdocs are classified as students, they've been able to file grievances under the procedure for students. But Stanford postdoctoral association (SUPD) member Robert Busch notes that these procedures were meant to apply to academic matters such as grades and really aren't appropriate for the added workplace issues that postdocs have. The association is also in the process of drafting a new grievance procedure that would be more relevant to postdocs.

Still, disputes with your adviser can have a price. Although standing up to his adviser "validated that what I thought on principle was true," Rohit says the bridges are probably now burned on their once cordial relationship. He probably would not have done so, he says, had he not already left and been at a biotech company with no real possibility of professional consequences.

And that's a real consideration, says Daniel Zuckerman, former president of the Johns Hopkins Postdoctoral Association (JHPDA). "To formally complain is essentially to burn a bridge that may be the only one to the kind of job the postdoc wants," he says. "It's kind of like family problems, once it gets outside the home, it's a whole different ball of wax," agrees current JHPDA president Pauline Wong. Wong says she knows postdocs with grievances who have left under the guise of, for example, having found another job. She thinks that more oversight over the mentor/postdoc relationship is needed, and the association is trying to implement yearly evaluations between the postdoc and mentor to try and identify conflicts before they get out of hand.

Questions

1. Explain how the committee gave decision in favour of Rohit?
2. What do you infer from the case?

Source:http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2001_03_16/nodoi.13497987501303093089

13.9 Summary

- AACR2 covers main and added entries, "Choice of Access Points".

Notes

- A personal author is the person chiefly responsible for the creation of the intellectual or artistic content of a work.
- The Convention on the Rights of the Child specifies that a child has the right from birth to a name.
- The main groups of proper names singled out in fiction texts are anthroponyms and toponyms.
- Personal names are the names, surnames or nicknames of characters that were created by an author as well as of real individuals.
- In the case of a literary, dramatic, musical or artistic work (other than photograph), which is published anonymously, copyright shall subsist until.
- The Copyright Office offers several ways to register pseudonymous works.
- The word "library" may conjure up an image of an old building smelling of even older books in the mind of the public and "librarian" may still make many people recall a shushing spinster.
- Corporate authorship has always been a problematic issue, but at the 1961 ICCP, corporate bodies were recognised as important access points to bibliographic information, and general principles on corporate entry were laid down in section 9 of the Statement of Principles.
- Corporate authorship is more difficult to define for some cataloguers.
- The AACR 2 treats the corporation as the author. In some publications like the World Directory of Al-Anon Family Groups and Ala-teens, the corporate body (Al-Anon Family Group Headquarters) is responsible for the work, thus it is the main entry (Wynar, 1992). This can be somewhat related to the fashion industry.
- Libraries world over have always been recognised as an important social institution which helps in spreading the literacy and inculcating the reading habits among large section of population.

13.10 Keywords

Author: An author is broadly defined as the person who originated or gave existence to anything" and whose authorship determines responsibility for what was created.

Composer: A composer is a person who creates music, either by musical notation or oral tradition, for interpretation and performance, or through direct manipulation of sonic material as electroacoustic music.

Conflicts: The practice of recognizing and dealing with disputes in a rational, balanced and effective way.

Corporate Authorship: A corporate author is defined as an organization or a group of persons that is identified by a particular name and that acts, or may act, as an entity.

Corporate Name: A Corporate Name identifies a particular group of people or organisation.

Editor: A person who is in charge of and determines the final content of a text, particularly a newspaper or magazine.

Personal Name: A personal name is a proper name identifying an individual person, and today usually comprises a given name bestowed at birth or at a young age plus a surname.

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Pseudonymous: A pseudonym is a name that a person or group assumes for a particular purpose, which differs from his or her original or true name.

Title: A title is a prefix or suffix added to someone's name in certain contexts.

13.11 Review Questions

1. Discuss the choice of heading for the main entry.
2. Highlight the main entry for one composer.
3. Describe the choice and rendering of personal names.
4. What do you understand by Pseudonymous Works?
5. Discuss the Corporate authorship.
6. "In the AACR 2, there is a shift in language from corporate author to corporate body. Elucidate.
7. Do you think that conflicts about authorship have been increasing? If yes, give reasons.
8. "Government libraries are long-term entities." Discuss.

Answers: Self Assessment

1.	True	2.	False
3.	Personal Name	4.	Conventions
5.	True	6.	False
7.	Library	8.	Person
9.	False	10.	True
11.	Disagreements	12.	Co-authors
13.	True	14.	True
15.	Conference	16.	AACR2

13.12 Further Readings

Books

Prasher, Ram Gopal (1997). *"Library and Information Science: Parameters and Perspectives: Essays in Honour of Prof. P.B. Mangla, Volume 1."* Concept Publishing Company.

Sharma, Amit K. (2007). *"Library Classification."* Atlantic Publishers & Dist.

Singh, Sewa (1994). *"Indian Library and Information Science Literature: 1990–1991."* Concept Publishing Company.

Singh, Shivendra (2011). *"The Theory and Practice of the Dewey Decimal Classification System."* Gyan Publishing House.

Sun, Dajin D. & Carter, Ruth C. (2006). *"Education for Library Cataloging: International Perspectives, Part 1."* Routledge.

Notes

Online links

http://sheri-s-tepper.com/about/other-pen-names/

http://www.follettsoftware.com/tagofthemonth.cfm?tagID=46

http://www.legalzoom.com/copyrights-glossary/copyright-pseudonymous-work.html

http://www.library.yale.edu/cataloging/music/mainentr.htm

http://www.quizlaw.com/copyrights/what_is_a_pseudonymous_work.php

https://www.ideals.illinois.edu/bitstream/handle/2142/8761/librarytrendsv25i3d_opt.pdf?sequence=2

Notes

Unit 14: Canons and Principles for Library Catalogue

CONTENTS

Objectives

After studying this unit, you will be able to:

- Explain the Purpose of a Library Catalogue
- Discuss the Function of a Library Catalogue

Notes

- Explain the Forms of Catalogue
- Describe the Canons
- Discuss the Principles
- Explain the International Standard Bibliographic Description (ISBD)

Introduction

A catalogue is a list of things exhibited, articles for sale, school courses offered, etc., usually with descriptive comments and often illustration. S.R. Ranganathan, the father of Library science has developed the canons for classification which are helpful for both the classificationists and classifiers. The provision of ISBD developed and published by the International Federation of Library Associations and Institutions (IFLA) and covering most media and bibliographic conditions have been incorporated in Anglo-American Cataloguing Rules of 1988.

14.1 Purpose of a Library Catalogue

A library catalogue (or library catalogue) is a register of all bibliographic items found in a library or group of libraries, such as a network of libraries at several locations. A bibliographic item can be any information entity (e.g., books, computer files, graphics, realia, cartographic materials, etc.) that is considered library material (e.g., a single novel in an anthology), or a group of library materials (e.g., a trilogy), or linked from the catalogue (e.g., a webpage) as far as it is relevant to the catalogue and to the users (patrons) of the library.

The purpose of Library Catalogue is as follows:

1. To enable a person to find a book of which either (Identifying objective)
   - ❖ The author
   - ❖ The title
   - ❖ The subject
   - ❖ The category is known.
2. To show what the library has (Collocating objective)
   - ❖ By a given author
   - ❖ On a given subject
   - ❖ In a given kind of literature
3. To assist in the choice of a book (Evaluating objective)
   - ❖ As to its edition (bibliographically)
   - ❖ As to its character (literary or topical)

These objectives can still be recognized in more modern definitions formulated throughout the 20th century. 1960/61 Cutter's objectives were revised by Lubetzky and the Conference on Cataloguing Principles (CCP) in Paris. The latest attempt to describe a library catalogue's goals and functions was made in 1998 with Functional Requirements for Bibliographic Records (FRBR) which defines four user tasks: find, identify, select, and obtain.

A catalogue also serves as an inventory or bookkeeping of what's in the library. If an item (a book) is not found in the catalogue, the user doesn't have to search the shelves but can continue her search at another library. Library thieves, who may be staff or regular visitors of

Notes

the library, risk to be discovered if a book is in the catalogue but missing from the shelves. To avoid this, some library thieves have been careful to also steal the catalogue card describing the book.

A library catalogue serves the same purpose. It is a file of records for a library's collection. It is important to both library users and library staff. Its functions include giving a comprehensive record of materials owned by the library, listing what the library possesses by a certain author, on a given subject, and with a certain title, and enabling library materials to be located easily. The catalogue provides multiple access points to the library's collection.

Task Critically examine how catalogue also serves as an inventory or bookkeeping of what's in the library.

Self Assessment

State whether the following statements are true or false:

1. A library catalogue is a register of all bibliographic items found in a library or group of libraries, such as a network of libraries at several locations.
2. A catalogue also serves as an inventory or bookkeeping of what's in the library.
3. A library catalogue serves the different purpose.

14.2 Functions of a Library Catalogue

Until the 1980s, most library catalogues consisted of 3" × 5" cards representing all the materials in the collection. These cards were stored alphabetically in drawers, comprising large banks of cabinets. Few libraries still have functioning "card catalogues."

During the 1980s, many libraries began converting to ONLINE CATALOGS. The reasons for doing so included:

- Online catalogues could be edited and updated more easily and quickly than card catalogues
- Online catalogues showed the current status of each item (i.e., "available" or "checked out")
- Searching was easier and more flexible – users could enter Keywords as well as Title, Author, and Subject terms to search for materials
- Users could access the catalogue from computers located outside the library – from home or from thousands of miles away

Functions of Library Catalogue are as follows:

- To collect, preserve and cultivate the treasures of knowledge, the heritage and the culture, including the expansion and enhancement of the Library's collections;
- To serve as a home for the collections, archives, manuscripts, documents, maps, music and other audio treasures, graphic creations, audio-visual creations and electronic documents, as well as other items of unique national, historic or cultural significance;
- To allow the public, proper and reasonable access to the Library's collections through a variety of channels, among them advanced technological means;
- To display permanent and changing exhibitions of collections to the public, including borrowed collections;

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- To provide cultural, literary and educational activities, geared towards the general public as well as specific audiences, including students;
- To grant professional guidance in its fields of expertise, as fit, in accordance with its objectives, including the management of libraries at institutions of higher learning;
- To maintain professional ties with National libraries, public libraries and archives as well as cultural and educational institutions outside Israel;
- To serve as a haven for the culture of books, including encouraging research in this realm and housing the Museum of the Book;
- To maintain and operate an infrastructure that allows, among other things, suitable study, documentation, storage, preservation, presentation and research conditions.

Self Assessment

Fill in the blanks:

4. Until the 1980s, most library catalogues consisted of …….cards representing all the materials in the collection.
5. Library Catalogue display permanent and changing ……..of collections to the public.
6. Library Catalogue maintain and operate an ……that allows, among other things, suitable study, documentation, storage, preservation, presentation and research conditions.

14.3 Classified Catalogue

A classified catalogue is a form of subject catalogue. In this type of catalogue in which the entries are arranged by the class number representing the subject of document, which is according to the classification scheme chosen for a library. The class numbers are obtained by the application of classification system of a library.

The classified catalogue has therefore two parts: the classified part and the alphabetical part. The alphabetical part serves as an index and comprises of author, title, and if necessary, subject, collaborators, series, and different types of cross-reference index entries.

Classified Part

It gives the systematic and structured display of subjects in a classified catalogue. It maps out the subordinate and coordinate subject divisions and puts them in a logical sequence.

While displaying the entries in a classified catalogue, merely giving the class numbers would not be very helpful to the users of the catalogue as they may not be aware about the classification scheme. It is therefore necessary to give them the related verbal equivalents of the division of class numbers. These verbal equivalents are known as "Feature Headings".

Feature Headings are verbal extensions. Being a major source of indexing terms, these will indicate the terms, which should be used for navigation, both in the catalogue and on the shelves. To make a guide for every featured heading is done by BNB.

Alphabetical Index

The alphabetical index to a classified catalogue, consisting of author, title, subject entries, and other entries for collaborators, series, editors of series and a host of cross references is meant to

Notes

support the classified part of the catalogue. It fulfils all the functions of a dictionary catalogue as well as classified part.

Despite all these features of a classified catalogue, it has its own merits and demerits.

Merits of Alphabetical Index

- It provides a logical subject-wise guide to the materials available in a library or it brings together in one place all the entries relevant to a particular subject with all its related subjects.
- The arrangement of entries in the catalogue reflects the arrangements of documents on the shelves of the library.
- Subjects without inconvenience can bring out the printed versions of the catalogues in parts.
- Readers will find all the material of their interest from the one catalogue at one place.

The most significant demerit of a classified catalogue this is that the reader must have some knowledge of the classification scheme used for the arrangement of entries while consulting the catalogue.

With all these deficiencies, the classified catalogue has got its place in many libraries, especially academic, research, and special libraries. The deficiencies can be overcome by developing a good alphabetical index and by using a good classification system.

Dictionary vs Classified Catalogue

The provision of the author/title catalogue form in conjunction with two of the subject catalogue forms (alphabetico-direct in the one case and classified in the other) produces the two "classical" inner forms of full library catalogue. These are as follows:

- The dictionary catalogue, which inter-files its author/title headings, specific verbal subject headings, and connective references in one alphabetical sequence.
- The classified catalogue, in which the principle component is the classified file of subject entries, complemented by alphabetically arranged indexes of subjects, authors, and titles. These indexes may be arranged in a single, or in separate, alphabetical sequence, and the author/title index may be full of author/title catalogue or may be more restricted in bibliographic detail than the full entry in the classified file. Strictly speaking, it is a subject catalogue, in which entries are arranged according to some scheme of classification.

Thus among all the inner forms of a library catalogue, the classified and dictionary catalogues are the most popular forms of the catalogue existing so far. The comparative view of each with reference to the features or aspects of both the types is given below in a tabular form.

Alphabetico-classified Catalogue

It is also a kind of subject catalogue and attempts to incorporate the advantages of both the dictionary and the classified catalogues. It may be considered as a combination or mixture of the best points associated with the dictionary and the classified catalogues.

Foskett states that "recognition of both the need for expressing certain relationships and difficulty of doing systematically in the dictionary index led to the development of the alphabetico-classed system in which the main scheme of arrangement is alphabetic; the specific sub-division of major subjects may be grouped together under the heading of that subject."

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Cutter has defined it as "an alphabetic subject catalogue in which the subjects are grouped in broad classes with numerous alphabetic sub-divisions. It may also include author and title entries in the same alphabet."

A catalogue of this kind consists of an alphabetical sequence of mutually exclusive broad subject headings, under each of which appears the alphabetical sequence of sub-headings. In Dewey Decimal Classification system, the division of 500, i.e., Natural Sciences in an alphabetical order would be as follows:

500 – Astronomy and allied sciences

570 – Biology

540 – Chemistry and allied sciences

550 – Earth sciences

551 – Geology

551.41 – Geomorphology

551.49 – Ground water

551.46 – Hydrosphere

551.42 – Island and reefs

From the above example, it is noticed that the alphabetico-classed catalogue brings related subjects together, but their alphabetical arrangement takes away the filiation of subjects.

Thus, this type of catalogue arrangement must have an alphabetical index of specific subject for its successful usage.

Self Assessment

State whether the following statements are true or false:

7. In an author catalogue, the entries are under the author's name and are arranged alphabetically.
8. The class numbers are obtained by the application of classification system of a library.
9. The dictionary catalogue, which inter-files its author/title headings, specific verbal subject headings, and connective references in two alphabetical sequences.

14.4 Canons

There are many canons. The following are the canons for arrays of classes:

14.4.1 Canons for Characteristics

131: Canon of Differentiation

Each characteristic used should differentiate, that is, it should give rise to at least two classes.

132: Canon of Concomitance

No two characteristics should be concomitant.

133: Canon of Relevance

Each characteristic should be relevant to the purpose of the classification.

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134: Canon of Ascertainability

Each characteristic should be definitely ascertainable.

135: Canon of Permanence

Each characteristic should continue to be both ascertainable and unchanged, so long as there is no change in the purpose of the classification.

136: Canon of Relevant Sequence

The characteristics of the scheme are to be used in a sequence relevant to the purpose of the classification.

137: Canon of Consistency

The sequence of applying the chosen characteristics should be consistently adhered to.

14.4.2 Canons for Array

141: Canon of Exhaustiveness

The classes in any array of classes should be totally exhaustive of their common immediate universe.

142: Canon of Exclusiveness

The classes in an array of classes should be mutually exclusive.

143: Canon of Helpful Sequence

The sequence of the classes in any array should be helpful. It should be according to some convenient principle, and not arbitrary, wherever insistence on one principle does not violate other more important requirements.

144: Canon of Consistent Sequence

Whenever similar classes occur in different arrays, their sequences should be parallel in all such arrays, wherever insistence on such a parallel does not run counter to other more important requirements.

14.4.3 Canons for Chain

151: Canon of Decreasing Extension

While moving down a chain from its first link to its last link, the intension of the classes should increase, and the extension of the classes should decrease.

152: Canon of Modulation

A chain of classes should comprise one class of each and every order that lies between the orders of the first link and the last link of the chain.

14.4.4 Canons for Filiatory Sequence

161: Canon for Subordinate Clauses

All the subordinate classes of a class, in whatever chain they may occur, should immediately follow it, without being separated from it or among themselves by any other class.

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162: Canon for Co-ordinate Classes

Among the classes in an array, no class with less affinity should come between two classes with greater affinity.

14.4.5 Canons for Terminology

171: Canon of Currency

Each of the terms used to denote the classes in a scheme of classification must be the one currently accepted by those specialising in the universe to which the scheme is applicable.

172: Canon of Reticence

The terms used to denote the classes in a scheme of classification should not be critical.

173: Canon of Enumeration

The denotation of each term in a scheme of classification should be decided in the light of the classes enumerated in the various chains (lower links) having the class denoted by the term as their common first link.

174: Canon of Context

The denotation of each term in a scheme of classification should be decided in the light of the different classes of lower order (upper links) belonging to the same primary chain as the class denoted by the term.

14.4.6 Canons for Notation

1881: Canon of Relativity

The length of a class number in a scheme of classification should be proportional to the order of the intension of the class it represents.

1882: Canon of Expressiveness

A class number should be expressive of the relevant characteristics of the class represented by it.

1883: Canon of Mixed Notation

The notation of a scheme of classification should be mixed.

14.4.7 Special Canons for Knowledge Classification

221: Canon of Hospitality in Array

The construction of a class number should admit of an infinite number of new co-ordinate class numbers being added to an array without disturbing the existing class numbers in any way.

231: Canon of Hospitality in Chain

The construction of a new class number should admit of infinity of new class numbers being added at the end of its chain without disturbing any of the existing class numbers in any way.

241: General Canon of Mnemonics

The digit or digits used to represent a specified concept in a class number should be the same in all class numbers having the concept represented in them, provided that insistence on such consistent representation does not violate more important requirements.

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252: Canon of Verbal Mnemonics

Verbal mnemonics should be rejected, without any hesitation, if a sequence more helpful to readers or more filiatory than alphabetical sequence exists. Verbal mnemonics by alphabetical device should be preferred if the alphabetical sequence is as helpful as any other sequence. The word forming the basis of verbal mnemonics should be that of international nomenclature whenever it has been set up.

261: Canon of Scheduled Mnemonics

A scheme of classification should include a preliminary set of schedules of divisions based on characteristics likely to recur in an array of some order or other of all or many classes, or refer any recurrent array of divisions to the one schedule of them giving in connection with an appropriate class.

271: Canon of Seminal Mnemonics

A scheme of classification should use one and the same digit to denote seminally equivalent concepts in whatever array of whatever class they may appear.

14.4.8 Special Canons for Book Classification

621: Canon of Classics

A Scheme of Book Classification should have a device to bring together all the editions, translations, and adaptations of a classic, and next to them all the editions, etc., of the different commentaries on it, the editions, etc., of a particular commentary all coming together, and next to each commentary all the editions, etc., of the commentaries on itself in a similar manner (commentaries of the second order), and so on.

631: Canon of Local Variation

The notational system of a scheme of book classification should provide for variations due to special interests.

662: Canon of Book Number

A scheme of book classification should be provided with a scheme of book numbers to individualise the documents having the same class of knowledge as their ultimate class.

678: Canon of Collection Number

A Scheme of Book Classification may be provided with a Schedule of Collection Numbers to individualise the various collections of special documents to be formed on the basis of the peculiarities of their gross bodies, or their rarity, or service exigency to facilitate use by readers. The collection numbers based on physical peculiarity may be of use in bibliographies also.

6852: Canon of Distinctiveness

In a Scheme of Library Classification, the class number, the book number, and the collection number, together forming the call number, should be written quite distinct from one another.

Self Assessment

State whether the following statements are true or false:

10. In Canon of Differentiation, each characteristic used should differentiate, that is, it should give rise to at least two classes.

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11. In Canon of Exclusiveness, the classes in an array of classes should not be mutually exclusive.

12. In Canon of Reticence, the terms used to denote the classes in a scheme of classification should be critical.

14.5 Principles

Following are the Principles:

1. ***Principle of Increasing Concreteness:*** If two classes are such that one can be said to be more abstract and less concrete than the other, the former should precede the latter.

2. ***Principle of Increasing Artificiality:*** If two classes are such that one can be said to be nearer to the "thing-in-itself" or naturalness and farther from artificiality than the other, the former should precede the other.

14.5.1 For Facet Formula

Principle of Inversion: In an analytico-synthetic classification, the implementation of the Principle of Increasing Concreteness requires that the facets in the facet formula of a basic class should be in the decreasing sequence of concreteness. If the scheme has rounds of facets, the facets in each round should be in the decreasing sequence of concreteness.

14.5.2 For Helpfulness in Array

1. ***Principle of Increasing Quantity:*** If the characteristic used admits of quantitative measurement, the sequence of the classes may be in the ascending sequence of the measure in which the classes share the characteristic.

2. ***Principle of Later-in-Time:*** If the classes in an array have originated in different times, they may be arranged in a parallel progressive time-sequence.

3. ***Principle of Later-in-Evolution:*** If the characteristic is of an evolutionary nature, the sequence of the classes may be parallel to the course of evolution.

4. ***Principle of Spatial Continuity:*** If the classes of an array occur contiguously in space, they may be arranged in a parallel spatial sequence.

5. ***Principle of Increasing Complexity:*** If the classes in an array show different degrees of complexity, they are arranged in the sequence of increasing complexity.

6. ***Principle of Canonical Sequence:*** If the classes are traditionally referred to in a specific sequence, although no underlying principle is discoverable, it will be convenient to confirm to this traditional sequence.

7. ***Principle of Favoured Category:*** The classes in an array may be arranged in the sequence of the decreasing quantity of published documents on them.

8. ***Principle of Alphabetical Sequence:*** When no other sequence of the classes in an array is more helpful, they are arranged alphabetically by their names current in international usage.

Notes

Self Assessment

State whether the following statements are true or false:

13. If the classes of an array occur contiguously in space, they may be arranged in a parallel spatial sequence.
14. The classes in an array may not be arranged in the sequence of the decreasing quantity of published documents on them.
15. If the classes in an array show same degrees of complexity, they are arranged in the sequence of increasing complexity.

14.6 International Standard Bibliographic Description (ISBD)

Publishing is indispensable in the knowledge industry. Publishers are mediators, who transmit, maintain, and support data. Publishing is important to national development because of the importance of information dissemination and preservation of culture and history. International Standard Bibliographic Description (ISBD) is a standard for descriptive cataloguing that facilitates the exchange of bibliographic records throughout the international library and information community. It also gives guidance to publishers on what elements should be present in published works (e.g., author, title, publisher.) ISBD was developed by the International Federation of Library Associations and Institutions (IFLA) and has been incorporated into the Anglo-American Cataloguing Rules, 2nd edition (AACR2). ISBD helps identify a publication's title, imprint, pagination, size, and so on, in a standard way (Gredley and Hopkinson, 1990). In 1975, the National Library of Nigeria, in collaboration with the Department of Library Studies, University of Ibadan and IFLA International office for UBC in London, organized a workshop to introduce ISBD to Nigerian librarians. Nigeria began to use ISBD in its national bibliography that same year (Aje, 1977).

The significance of this was to help record the physical and in identifying the characteristics of a publication, including title, imprint and pagination, size, binding information, etc.

ISBD is very important to publishers because it helps users to identify basic information easily. To library users, especially researchers, preliminary information is very important. The use of ISBD in published books helps identify that basic information. When the ISBD standard is not used, there may be a long search for information that should have taken only a few minutes.

The International Standard Bibliographic Description (ISBD) is the standard that specifies the requirements for describing and identifying the most common types of published resources in library collections. The ISBD also orders the elements of the description, and specifies punctuation system.

Until 2007 there were seven specialised ISBDs for resources, plus a General ISBD. In 2003, the ISBD Review Group, charged with maintaining and updating these standards, decided to create a Study Group on the future direction of ISBDs in response to their concern at the discovery of ambiguities and inconsistencies in the stipulations of different ISBDs. This Study Group decided that consolidation of all the ISBDs was viable, and started to prepare a definitive text, the result of which was the consolidated ISBD. To achieve this, some prior steps were necessary, such as the revision of the General Material Designation, the result of which was the new Area.

The consolidated ISBD standardises the cataloguing requirements for different types of resources, and makes it easier to update requirements. Unification has also made it possible to update the obligatory nature of an element of information, achieving greater conformity with the information requirements established in the FRBR.

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The International Standard Bibliographic Descriptions date back to 1969, when the IFLA Committee on Cataloguing (subsequently renamed the Standing Committee of the IFLA Section on Cataloguing, now known as the Standing Committee of the IFLA Cataloguing Section) sponsored an International Meeting of Cataloguing Experts. This meeting produced a resolution that proposed creation of standards to regularize the form and content of bibliographic descriptions. This resulted in the creation of the ISBDs.

The first of the ISBDs was the International Standard Bibliographic Description for Monographic Publications (ISBD(M)), which appeared in 1971. It has been used by a number of cataloguing committees in drafting national rules for description. In 1975, the Joint Steering Committee for Revision of the Anglo-American Cataloguing Rules proposed to the IFLA Committee on Cataloguing the development of an ISBD that would cover most common types of library resources, and the ISBD(G) was published in 1977. The ISBD(M) was then revised to bring it into line with the ISBD(G) in 1978. Further ISBDs were then developed for other types of materials.

The ISBD Review Group reviews and revises the ISBDs, which are published by IFLA. In the early 1990s, the IFLA Section on Cataloguing with the cooperation of the Section on Classification and Indexing set up a Study Group on the Functional Requirements for Bibliographic Records (FRBR). Revision work on the ISBDs was suspended until the group reported in 1998. The ISBD Review Group was then reconstituted and asked to initiate a full-scale review of the ISBDs to ensure conformity with the FRBR data requirements.

The ISBD Family are as follows:

- ISBD(G) General International Standard Bibliographic Description
- ISBD(M) International Standard Bibliographic Description for Monographic Publications
- ISBD(PM) International Standard Bibliographic Description for Printed Music
- ISBD(NBM) International Standard Bibliographic Description for Non-book Materials
- ISBD(CM) International Standard Bibliographic Description for Cartographic Materials
- ISBD(A) International Standard Bibliographic Description for Older Monographic Publications (Antiquarian)
- ISBD(S) International Standard Bibliographic Description for Serials
- ISBD(ER) International Standard Bibliographic Description for Electronic Resources
- Guidelines for the application of the ISBDs to the description of Component Parts

The ISBD prescribes eight areas of description. Each area, except area 7, is composed of multiple elements with structured classifications. Elements and areas that do not apply to a particular resource are omitted from the description. Standardized punctuation (colons, semicolons, slashes, dashes, commas, and periods) is used to identify and separate the elements and areas. The order of elements and standardized punctuation make it easier to interpret bibliographic records when one does not understand the language of the description.

1. Title and statement of responsibility area, with the contents of
    - ❖ Title proper
    - ❖ General material designation. GMDs are generic terms describing the medium of the item.
    - ❖ Parallel title
    - ❖ Other title information
    - ❖ Statements of responsibility (authorship, editorship, etc.)

Notes

2. Edition Area
3. Material or type of resource specific area (for example, the scale of a map or the numbering of a periodical)
4. Publication, production, distribution, etc., area
5. Physical description area (for example: number of pages in a book or number of CDs issued as a unit)
6. Series area
7. Notes area
8. Resource identifier (e.g. ISBN, ISSN) and terms of availability area

ISBD(A) is governing the antiquarian bibliographic publications, which could apply to the ones in archaeology, museum, antique auction or canonical texts, etc.

Self Assessment

Fill in the blanks:

16. ……..is important to national development because of the importance of information dissemination and preservation of culture and history.
17. ……..is very important to publishers because it helps users to identify basic information easily.
18. The first of the ISBDs was the International Standard Bibliographic Description for Monographic Publications (ISBD(M)), which appeared in……..

Case Study

International Standard Bibliographic Description (ISBD)

The Use of International Standard Bibliographic Description (ISBD) and the Quality of Books Published in Nigeria

A continuing information explosion has driven some authors to patronize these publishers who do not meet the standards of ISBD. Some Nigerian publishes do not observe basic ISBD requirements, and the title pages of many publications are either missing or are lack basic information. Too much time is spent on trying to identify authorship. This study examines the use of ISBD and the quality of Nigerian published books.

The populations are all publishers and Nigerian published books in the Universities of Calabar, Uyo, and Port Harcourt Libraries. One thousand books were sampled from these three university libraries and 250 publishers were also sampled. One hypothesis was formulated to guide the study.

Data were analysed using Pearson Product Moment Correlation Coefficient (PPMC). The observation made from the documentary evidence from the three university libraries and the publishers guided the discussion of findings as presented in the tables shown below.

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Table 1: ISBD as Correlate of Quality Book Publishing in Nigeria

International Standard Bibliographic Description

	Available	%	Not Available	%
Author	1,000	100	0	0
Title	999	99.9	1	0.1
Place of Publication	998	99.8	2	0.2
Year of Publication	973	97.3	27	2.7
Publisher's Name	1,000	100	0	0
Copyright	700	70.0	300	30.0
ISBN	941	94.1	59	5.9
Bibliography	574	57.4	426	42.6
Index	708	70.8	292	29.2

Table 1 shows that a majority of Nigerian published books lacked some of the variables. All 1,000 (100%) of the sampled Nigerian books included the author's name on the title page, while 999 (99.9%) included a title. Nearly all (998, or 99.8%) indicated the place of publication, while 973 (97.3%) included the year. One hundred included the publisher name. Copyright has always been a problem in Nigerian publishing. Too many publishers do not know the implications of violating the copyright law. Only 700 (70.0%) of the sample included copyright information.

Table 2: The Use of ISBD and the Quality of Books Published in Nigeria

Item	Agreed (A)	%	Disagreed (D)	%
1. The use of ISBD specification makes Nigeria published books compete with others in the books market.	167	66.8	83	33.2
2. The use of ISBD gives publishers a sense of direction in carrying out their work.	64	25.6	186	74.4
3. The use of ISBD specifies directive of book arrangement before publication	153	61.2	97	38.8
4. The use of ISBD simplifies the work done in published books	162	64.8	88	35.2
5. The use of ISBD makes Nigeria published books less unique	52	20.8	198	79.2

Table 2 reflects the responses on the usability of ISBD from Nigerian publishers. Two thirds agree that ISBD helps Nigerian books compete with others, and about the same number agree that it simplifies their work and that it helps specify directives of book

Contd....

Notes

arrangement before publication. Only one quarter agree that the use of ISBD gives publishers a sense of direction. Only twenty per cent of respondents agreed that the use of ISBD makes Nigerian published books less unique.

Ho: The use of ISBD in books has no significant relationship to the quality of books published in Nigeria

Table 3: Pearson Product Moment Correlation Coefficient Analysis of Usability and Quality of Books Published in Nigeria

Variables	Σx	Σy	Σx^2	Σy^2	Σxy	r
Quality	15786.00		2.9E +07		2.9E+07	.735
Use		2554.00		776204.00		

p <.05 df 7 crt = .666

As shown in table 3, the calculated r value of .735 is greater than the critical r-value of .666, hence the null hypothesis is rejected. This indicates that the use of ISBD in books has a significant relationship to quality, and that ISBD is a correlate to quality book published in Nigeria. The result suggests that books published in Nigeria cannot complete with books published overseas due to incomplete bibliographic information. The finding supports Edoka's (2000) views on the importance of using ISBD in published books. The findings confirm Szilvassy's (1993) opinion that although most of the developing countries are aware of the provision of ISBD, they are less likely to use it. Edoka (2000) stresses the importance of bibliographic data for librarians and sometimes for readers as well. When these data are used in published books the librarian can describe the work in a complete and accurate way. The results of this study indicate that most Nigerian publishers do not use ISBD in book arrangement. The results are in line with the view of Meyers, Bovensculte, and Lowry (1999) that ISBD guides authors and publishers in accurate description.

Most of the books in the study that lacked ISBD elements were those published by less expert or legitimate publishers. These findings on the absence of copyright information in Nigerian published books support Asein's (2002) findings that Nigerian publishers are still ignorant of copyright laws.

Lack of essential elements of ISBD by Nigerian publishers creates problems for cataloguers, document lists, and library users. It hinders the process of retrieving information. The study concludes that the use of ISBD has a significant relationship to the quality of books published by Nigerians. Authors should patronize reputable publishers who are well committed to ISBD and its proper arrangement in Nigerian published books, which will also facilitate cataloguing.

Questions

1. Critically analyse the above case.
2. Write down the case facts.
3. What do you infer from the case?

Source: http://www.webpages.uidaho.edu/~mbolin/enang.htm

Notes

14.7 Summary

- A library catalogue (or library catalogue) is a register of all bibliographic items found in a library or group of libraries, such as a network of libraries at several locations.
- A catalogue also serves as an inventory or bookkeeping of what's in the library.
- A library catalogue serves the same purpose. It is a file of records for a library's collection.
- The catalogue provides multiple access points to the library's collection.
- Until the 1980s, most library catalogues consisted of 3" x 5" cards representing all the materials in the collection.
- ISBD is very important to publishers because it helps users to identify basic information easily.
- Publishing is indispensable in the knowledge industry.
- The consolidated ISBD standardizes the cataloguing requirements for different types of resources, and makes it easier to update requirements.
- The ISBD Review Group reviews and revises the ISBDs, which are published by IFLA.
- The ISBD prescribes eight areas of description.

14.8 Keywords

Alphabetical Catalogue: Alphabetical catalogues can be arranged in several ways: these can be by the author, by the name of a person, by the title or by a specific subject.

Alphabetical Index: The alphabetical index to a classified catalogue, consisting of author, title, subject entries, and other entries for collaborators, series, and editors of series and a host of cross references is meant to support the classified part of the catalogue.

Bibliographic: A bibliographic item can be any information that is considered library material or a group of library materials), or linked from the catalogue as far as it is relevant to the catalogue and to the users (patrons) of the library.

Classified Catalogue: A classified catalogue is a form of subject catalogue. In this type of catalogue in which the entries are arranged by the class number representing the subject of document, which is according to the classification scheme chosen for a library.

Conference: A conference is generally understood as a meeting of several people to discuss a particular topic.

International Standard Bibliographic Description (ISBD): The International Standard Bibliographic Description (ISBD) is a set of rules produced by the International Federation of Library Associations and Institutions (IFLA) to create a bibliographic description in a standard, human-readable form, especially for use in a bibliography or a library catalogue.

Library Catalogue: A library catalogue (or library catalogue) is a register of all bibliographic items found in a library or group of libraries, such as a network of libraries at several locations.

Notation: A series or system of written symbols used to represent numbers, amounts, or elements in something such as music or mathematics.

Principles: A fundamental truth or proposition that serves as the foundation for a system of belief or behaviour or for a chain of reasoning.

Sequence: A particular order in which related events, movements, or things follow each other.

Notes

14.9 Review Questions

1. Discuss the purpose of Library Catalogue.
2. Explain with the reasons why many libraries began converting to online catalogues.
3. Describe Author Catalogue.
4. Write brief note on Classified Catalogue.
5. Distinguish Dictionary vs. Classified Catalogue.
6. Explain Alphabetico-classified Catalogue.
7. Discuss Canons for Characteristics.
8. What are the special canons for knowledge classification?
9. Highlight special canons for knowledge classification.
10. Discuss the principles for helpfulness in array.
11. Write brief note on International Standard Bibliographic Description (ISBD).
12. Highlight ISBD Family.

Answers: Self Assessment

1.	True	2.	True
3.	False	4.	3" × 5"
5.	Exhibitions	6.	Infrastructure
7.	True	8.	True
9.	False	10.	True
11.	False	12.	False
13.	True	14.	False
15.	False	16.	Publishing
17.	ISBD	18.	1971

14.10 Further Readings

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