Study materials for online platform for students.
Prepared by Ms. Nikita Lama DLIS, CU

THEORY OF LIBRARY CLASSIFICATION

Library classification has been derived from the Latin word 'classis' which means 'grouping'. The process of grouping and categorising similar items and objects which is very important in formulating groups is called a classification. This process helps the user to arrange, organize and make a logical sense of any collected material to find or locate them in an easy manner. According to S R Ranganathan "Library classification is the translation of the name of the specific subject of a book into a preferred artificial language of ordinal numbers and the indivisualisation of the several books dealing with one and the same specific subject by means of another set of ordinal numbers which represent some features of the books other than their thought–content. The first of these ordinal number is called the Class number of the book. The second ordinal number is called its Book number. It is usual to separate the book number from the class number by a space or to write the former beneath the latter. The class number nd the book number taken together constitutes its Call number. The call number of a book fixes its position relatively to the other books in the library." Before we attempt to study the Theory of Library Classification, it is necessary for us to know the importance of developing a theory. It is equally necessary for us to recognise the need for such a theory.

Importance of a Theory – At the outset, one must know what constitutes a theory and how it is important for development of a subject. A theory refers to an organised set of principles, which provides the basis for further investigations into and the development of a subject. It explains the what and why of the existing phenomena. Its importance for the growth and development of a subject hardly needs emphasis. The theory of a subject:

1) Helps the subject to be accepted as a discipline in its own right
2) Serves as the very foundation of a subject and also provide it a scientific basis.
3) Enables the systematic study of a subject, leadind to its growth and development.
4) Helps the practitioners of the subject (classifiers) to solve day–to–day problems faced by them. This becomes possible due to the availability of guiding principles.
5) Adds to the prestige and status of a subject.
6) Qualifies the subject to be accepted as a discipline.
7) Provides a scientific basis far a subject and brings respectability and status to it.

Need of a Theory

If we look into the history of library' classification, we find that during the early stages of its development it handled a small number of subjects constituting the whole of knowledge, and a broad classification met the requirements of that time. The schemes

were prepared largely in response to the exigency of the time. These schemes seem to have been guided by the purpose on hand rather than a theory that would stand the test of time. These schemes solved the immediate and short–term problems. However, with the passage of time the number of subjects into which knowledge could be divided steadilyincreased, proving the existing schemes inadequate. With the growing complexity of subjects enshrined in documents it became necessary to classify knowledge minutely. This complexity called for a theory of library classification which could meet the –challenges posed by the turbulent growth in knowledge.

Development of a Theory

In any sphere of life, practice precedes theory. Life force stimulates man to improvise, design, and develop various aids – both at the physical and mental levels. After a long experience is gained with an improvised aid, a theory is developed in order to understand the, aid deeply and to systematise, improve, refine and develop it. So also it has been with classification. Within fifty years: after the design of Decimal Classification, Richardson add Sayers made comparative studies of the then known schemes for classification; and they also evolved a Theory of Classification. It was largely a "descriptive formulation" and "interpretative explanation". It was static and not dynamic. The emphasis at this stage, according to Parkhi in his book Library Classification, Evolution of a Dynamic Theory, was on the description of the practices followed by the classificationists in designing their schemes and were considered as norms for designing schemes. On the other hand, after 1949, Ranganathan and his associates slowly evolved a Dynamic Theory of Classification. The first consolidated account of this Dynamic Theory was published in 1957 in the Prolegomena to Library Classification, by Ranganathan. This 'was further refined after the establishment of DRTC at Bangalore in 1962, which provided facilities for deepening the Theory of Classification and making it more dynamic and applicable both to book classification and article classification. Consequentially, active work in the design of depth classification schedules for the classification of articles progressed. The need for such a dynamic theory is obvious as it only .could provide guidelines–for the development of subject classification in the future.

DESCRIPTIVE THEORY OF LIBRARY CLASSIFICATION

In the beginning there was no theory; only practice was followed. Practice gave rise to descriptive theory. Thus, the descriptive theory was the first stage in the development of library classification. This theory was able .to meet the requirements of the universe of subjects (the totality of subjects comprising knowledge), as it existed at that time. The descriptive theory was based on the practices in vogue based on different schemes of classification then available. The descriptive theory, distilled out of the contemporary– schemes, held its sway until the early 1950s. The schemes designed

before the 1950s were based on the flair or natural gift of the designers and not on any objectively worked out theory of library classification. Their methods were empirical. The development of the descriptive theory is attributed to several stalwarts like Brown, Richardson, Hulme, Sayers, Bliss and Ranganathan. The period between 1898 and 1937 witnessed the genesis and development of this theory. These stalwarts, through their schemes and writings, enunciated certain principles of library classification which greatly contributed to the development of a General Theory of Library Classification. These principles and contributions of the personalities are briefly outlined in the following sub–sections.

J.D. Brown (1862–1914)

J.D. Brown was an English librarian, whose contribution to the General Theory of Library Classification was small but significant. He brought out three different schemes of classification. The first of these three was developed in 1894 jointly with J.H. Quinn and was known as Guinn–Brown Scheme. This scheme did not make much impact. Three years later, in 1897, Brown independently brought out another scheme and called it Adjustable Classification. This scheme also proved inadequate even in those days. In the year 1906, Brown published the first edition of his Subject Classification, the scheme for which he is mostly known. Its second edition was brought out in 1914 and the –third;,edited by J.D. Stewart; in 1939. Brown's Subject Classification was founded on the principle that every science and art spring from some definite source. In the order of things, there were first two factors, viz., matter and force. These, in turn, gave place to life. Life, in course of time, led to the mind, which in turn gave birth to records. In addition to the shove principle, Brown also advocated –two other principles. The first of these two was his one place theory. According to this principle, each subject has only one place in the scheme inrespective of its aspects and numerous manifestations. For example, the subject of rose may be viewed from the viewpoints of botany, horticulture, history, geography, decoration, –bibliography, etc. The subject of rose, according to Brown, is concrete, while the, various viewpoints represent its aspects. He was of the opinion that the interest of the scholar in 'rose' is constant, unlike that of the bibliographer whose interest is only occasional. He, therefore, preferred to place rose under one concrete or specific heading. It means that his arrangement of books was not the discipline (as in the Dewey Decimal Classification (DDC) or Library of Congress, (LC);but by topic. It was an experiment, which failed.The other principle advocated by Brown was the science and its applications theory. According to this principle, he places each subject as nearer as possible to the science from which it has sprung. Thus, rose is placed under botany, libraries under library economy, coal under mineralogy, and persons under biography. Theory and practice are collocated. As a result of this principle, Brown dispensed with "conventions, distinctions and groupings, which are arbitrary rather than scientific". for example, the distinction between Pure and Applied Sciences, between Fine Arts and Useful Arts, between

Currency and Numismatics, between Architecture and Building and between Costume and Press was not made. He faithfully followed these principles in his Subject Classification.

E.C Richardson (1860–9939)

E.C. Richardson was the first librarian of Hartford Theological Seminary, USA, and later took over as librarian of the Princeton University Library. Richardson is regarded as the first classificationists to have a systematic attempt to set down a theory of library classification. In 1910, he published his book Classification, Theoretical and Practical. It was the first textbook on classification, which later influenced W.C.B. Sayers. In the introduction to this work, he enumerated basic laws and principles meant to guide the work of designing a scheme of classification. These principles, called as Criteria of Classification, are as follows: Classification should follow the order of things; classes should be arranged in historical sequence. 1)Division of classes should be minute. 2)Arrange things according to likeness and unlikeness. 3)Books are collected for use; they are administered for use, and hence, it is the use, which is the motive behind classification. 4)A scheme of classification should be provided with a notation. The notation should be amenable to indefinite subdivisions preferably using a mixed symbol with decimal base and with mnemonic features. Richardson asserted that "things: nature are already classified and roan has to trace only the order –of the classification and record it."

E.W Hulme (9659–1954)

Hulme was the librarian of the Patent Office Library, London. In 1911–1912, he published his book Principles of Book Classification in the library Association Record. Has principles influenced the later theories of book–classification. In the words of W.C.B. Sayers, the contribution of Hulme was " A valuable leadup to, the more complete and satisfactory theories today". According to Hulme, all classifications could be arranged into two groups–(categories), viz., •Mechanical and–•Philosophical According to this categorisation, book classification is mechanical Hulme's principles of book classification are as follows:

1)Book classification is the plotting of areas pre–existing in literature, and coincidence with a philosophical order is no guarantee of accuracy.

2)Book classification–is mechanical assembly of material into classes. 3)The division and coordination–of classes in literature is determined mainly upon formal and non–philosophical lines.

4)Classification should be based literary warrant.

Hulme states that mechanical classifications are left uncoordinated. But in book classification, systematic coordination of classes is introduced. His theory of literary warrant immensely attracted the attention of later classificationists. E.A. Savage

(1877–1966) revived the term. Hulme ragards books as "concrete aggregates of facts selected from the common stock of knowledge". What Hulme meant by concrete aggregates is that if there are books on the subject of electricity and magnetism there is literary warrant, for providing a number for such a class named "electricity and magnetism". Literary warrant simply means that a subject cannot be listed in the scheme unless some literature has already appeared on it.The existing literature on a subject only justifies the inclusion of that subject in the scheme. Hulme's principle of literary warrant greatly influenced the Library of Congress Classification (LC). Ranganathan also made use of this principle, but not exactly in the sense Hulme made, use of it. According to Ranganathan, when the literature on a particular subject grows in size, there may arise a need for providing a separate class for, it in the scheme. Ranganathan's principle of literary warrant states that "the subjects in an array of subjects or the isolates in an array of isolates may be arranged in the sequence of decreasing quantity of the documents published or anticipated to be published on them, except when any other overwhelming consideration rules it out." Hence, it requires that the various aspects of such a new subject should be so listed as to bring those aspects first on which more literature have appeared.

W.C.B . Sayers (1881–1960)

William Charles Berwick Sayers, an English librarian and teacher of S.R. Ranganathan made a remarkable contribution to the development of the theory of classification. He is referred to as the first grammarian of library classification. He is responsible for interpreting and systematising the ideas of other theoreticians. He never designed any classification scheme, though, through his theory he has shown the way for others in the designing. of classification schemes. His theory of book classification first appeared in 1915 under the title "Canons of Classification". He expanded the outline of the theory contained in this book in three other books, viz., Grammar of Classification (Ed.2, 1915; Ed.4, 1935), Introduction to Library Classification (Ed.1, 1918; Ed.9, 1958) and Manual of Library Classification (ed.l, 1926; Ed.3, 1955; Ed.4, 1967 and Ed.5, 1975, revised by Arthur Maltby). It has now been revised by Rita Marcella and Robert Newton in 1994. Sayers Canons of Classification: Sayers simplified his theory of classification by stating 29 principles. He called them canons, meaning rules, regulations, standard tests or criteria of classification. The 29–canoris can be grouped under six categories as follows: Canons of definition (6)
Canons of divisions (7)
Canons of terms (4)
Canons of book classification (4)
Canons of notation (4)
Canons of book classification (5) schemes

These are discussed below:

Definition: Classification is a mental process by which things or ideas are grouped according. to their likeness. The likeness which exists in the universe of things and in ideas is called characteristic in classification. A characteristic is a basis of division or grouping of classes. In a scheme of classification, classes are to be arranged in a systematic order. The order is based on the theory of knowledge.

Division: Assembling things according to their degree of likeness and separating them according to their degree of unlikeness is the process of division. The chosen likeness or characteristic used to 'divide the given things may be natural or artificial. A natural characteristic is the inherent quality of a thing and hence, is responsible for its very existence. An artificial characteristic may be possessed by a group of things. For example, colour of clothes is an artificial characteristic. The division should proceed from greater extension and smaller intension to smaller extension and greater intension. The process of division should be gradual moving from general to specific. The characteristic used must be consistent at each stage of division.

Terms: A scheme of classification is a statement of knowledge using verbal terms. A term is the name for a class. It may be a word or a phrase. The terms should be unambiguous and unique with the same meaning whenever they are used in a scheme of classification. In a scheme of classification the terms used should always be non–critical.

Book Classification: A book classification is a device for the arrangement of books bysubject or form in a logical order. It must be capable of admitting any new subject without dislocating the class of subjects already drawn. Book classification schemes must be equipped with

1. a generalia class;
2. form classes like poetry, fiction, drama, etc.;
3. forms in which subjects are presented like theory, history, dictionary, etc.;
4. a notation; and
5. an index.

Notation: A notation consists of signs representing the class names in a scheme of classification. A notation should be brief, simple and flexible and have a mnemonic value. Book Classification Schemes: A scheme of classification should provide columnar schedules in the order of precedence of subjects. It is necessary to explain how to use the scheme. There should be a machinery for the revision of the scheme to keep it up–to–date accommodating new developments in the knowledge.

H.E. Bliss (1870–1955)

Henry Evelyn Bliss devoted his entire active life to the intensive study of the art and science of classification. In addition to the articles; which he contributed in library journals, his theories and principles of classification were expanded in his first work, titled Organisation of Knowledge and the System of Science (1929). In this work, he formulated scientific, philosophical and logical grounds for the study of bibliographic classification. This work is regarded as one of the basic texts on the theory of organisation of knowledge. He laid down the foundation for a relatively stable, scientifically acceptable and consistent scheme of classification. He also published another basic work on the theory of library classification titled Organisation of Knowledge in Libraries and the Subject Approach to Books (1933, 2nd ed. 1939). His work helped in establishing librarianship as a scholarly discipline. These two basic works convey to us the fundamental principles of classification which Bliss later tried to apply in his System of Bibliographic Classification (BC) whose outline was first published in 1935. The basic concepts of classification as expounded by Bliss may broadly be categorised as: 1)Consensus 2)Subordination 3)Collocation 4)Alternative locations 5)Notation

These concepts are briefly discussed below;
Consensus: Bliss viewed book classification as basically knowledge classification. He felt that considerable agreement existed among the experts on the arrangement of various branches of human knowledge. He termed this as scientific and educational consensus. The growth, organisation and development of human knowledge are brought about through the process of science and education. The word consensus refers to a relative agreement on the major classes of knowledge, their scope, order of arrangement and the essential relation between them. He believed that the natural order of main classes was close to this consensual order. Bliss felt that more closely a library classification reflected this consensus, the more stable, durable, flexible and efficient it would be. His order of main classes is based on this consensus.
Subordination: Bliss theorised that a classification scheme should observe two types of subordination, viz., 1)Subordination of the special to the general, and 2)Gradation by speciality. Subordination of the special to the general. This is also referred to as the principle of decreasing extension. A scheme of classification should arrange subjects in the order of decreasing extension so that a general subject is followed by a special subject. The order of subjects in a scheme of classification should reflect the sequence from general to specific. Gradation by speciality: This concept is based on the philosophical notion of gradation by speciality. Gradation principle is employed for organising a series of topics of equal rank into a rational sequence. The principle is that some subject depend for their veryexistence on the works or findings of others, and those that so dependant should follow the disciplines upon which they rely. This is also known as the principle of dependency. For example, among the natural sciences, physics comes first because it deals with the fundamentals of natural phenomena. Chemical phenomena depend to some extent on the findings of the physicists and,

therefore, chemistry follows physics. Bliss claims that "gradation by speciality is no mere arbitrary basis for classification but is a principle essential to the very process". Thus, the order of classes will be : General treated generally. General treated specially. Special treated generally Special treated specially.

Collocation: It is a by product of the above two principles. By collocation, Bliss means "bringing together in proximity subjects which are most closely related". Ranganathan termed this as filiatory sequence. The principles of subordination and gradation by speciality help to decide the sequence of broad subject fields or disciplines and, within each subject, the principle of decreasing extension and various orders in any arraydetermine the sequence of the subject. It is also necessary for bringing together similar subjects, which are most closely related. Therefore, Bliss, in his Bibliographic Classification, collocated language with literature, because of their very close affinity with each other. Similarly, education is collocated with psychology, and chemical technology with chemistry. Collocation generally refers to coordinate classes. But, it may also refer to subordinate classes. Bliss subordinated sociology to anthropology and anthropology to biology.

Alternative locations: A scheme of classification should meet the different needs and requirements of a special collection. Therefore, libraries may wish to– alter the order established by logical sequence. A scheme, if it is to be of maximum usefulness, should therefore provide for the adaptation of logical sequence to practical convenience in order to meet different views. Bliss did not believe in the rigid and unadaptable view of the order of knowledge. To meet this principle of practical convenience, provision has been made deliberately for alternative locations and treatments in his unique scheme, though it is somewhat contrary to the principle of consensus. Provision has been made in notation for moving certain topics to other locations. For example, moving theology from the main class P religion to class AJ following philosophy; technologies like aeronautics or ship building from applied physics to useful arts and subordinating international law to political science or to law; and economic history to general history. This principle provides flexibility needed to solve certain problems in classification faced by all classifiers of all systems. But it also proves that there is no absolute consensus on the order of subjects.

Notation : Bliss recognised three important qualities of a good notation, these are

•It should be correlative and subsidiary.

•It should be simple and brief, i.e., a notation should remain reasonably simple. He even suggested an economic limit of three to four digits in a class number.

•It should use synthetic features. This is to achieve economy in the printing and display of schedules resulting in the simplicity of structure and convenience in use. Bliss achieved this by the provision of general and special systematic schedules for construction of coextensive class numbers.

S.R. Ranganathan (1892–1972)

Right from 1924, S.R. Ranganathan had been developing his theory of library classification. In the first edition of Prolegomena to Library Classification (1937), he provided an integrated theory, mainly descriptive and comparative, of the practices in classification then in vogue. Ranganathan went ahead of those classificationists, mentioned in the preceding sub–sections, by extending the principles put forward by them. He also provided the largest list of normative principles named by –him as Fundamental Laws, Postulates, Principles and Canons and evolved a special terminology, which is evident from the first edition of Prolegomena. These rightly belong to stage–2 in the development of the General Theory of Library Classification. His theory is now synonymous with the General Theory of Library Classification.

Classification Research Group (London)

After the Royal Society Scientific Information Conference in 1948 and on the suggestion of the eminent scientist J.D. Bernel, the Classification Research Group (CRG) London was established in 1952. It is an unattached society of volunteers pursuing classification as an additional off the job work. They meet regularly in London. Upto 1996, they have held 308 meetings. Its founder members D.J. Foskett, Bernard Palmer (1910–1979), B.C. Vickery and A.J. Wells (1911–1994) were greatly influenced by Ranganathan's work. They mostly came from special, industrial and academic libraries. Their deep and thorough study led them to believe that none of the published schemes provided a satisfactory system either in arrangement or depth of details. CRG accepted Ranganathan's method of facet analysis though it did not accept his views on the restriction of the number of categories to be five. They named their categories as Entities, Properties and Activities. Nevertheless, in Ranganathan's Dynamic Theory, they found a sound base to be built up. They published their manifesto in the periodical Library Association Record (1955) which emphasises on the–need for a faceted classification as the basis of all methods of information retrieval. B.C. Vickery wrote a small volume on the methods of constructing a faceted classification. Members of CRG designed manyfaceted classification schemes for specialised subjects ranging from diamond technology to soil science; music to education. Experience gained in designing such schemes led them to believe that the right approach should be to seek new principles for library, classification. Though they never produced any new general classification system, their contributions to the development of classification techniques'.were many and innovating. A prominent member, Miss Barbara Kyle had a limited success in doing away with the necessity of main classes. Another member J.E.L. Farradane (1906–1989) incorporated the idea of relational analysis with operators into the construction of a faceted classification scheme. Later, a group member developed the Theory of Integrative Levels, which arranged entities in an evolving aggregation of complexities. Their work received publicity and wide discussion in their International Conference on Classification Research held at Dorking, England in 1957. Another publication enshrining their work is Sayers Memorial Volume (1961) edited by D.J.

Foskett and B.I. Palmer (London LibraryAssociation). At present, the CRG meetings are devoted to the discussion of the ensuing revised schedules of the Bibliographic Classification (BC2); Their major applied work remains in PRECIS formulated by Derek Austin, which had a classificatory approach. This Preserved Context Indexing System in 1971 replaced Ranganathan's Chain Procedure in the British National Bibliography – as required for the automated bibliography compilation work.

DYNAMIC THEORY OF CLASSIFICATION

The dynamic theory, according to R.S. Parkhi, is "a theory of library classification capable of carving out a methodology for the design of a scheme for library classification". It is regarded as stage–2 in the development of the General Theory of Library Classification. Such a theory enables us to organise emerging new subjects and the already known subjects in their proper places in a scheme of classification without disturbing the already established sequence. Its approach is futuristic. The dynamic theory of library(classification, developed by Ranganathan between 1948 and 1955, was presented for–the first time in the second edition of has Prolegomena to Library Classification, published in 1957. A more advanced version of this theory appeared in 1967 in the shape of: the third edition of the Prolegomena. This dynamic theory has provided a sound and stable methodology for designing a scheme of library classification. This has also helped the classificationists to keep pace with the developments in the universe of knowledge to design more stable schemes of classification. The formulation of a dynamic theory of library classification was marked by the recognition and separation of three planes of work: the Idea Plane, the Verbal Plane and the Notational Plane. Before this was done, lack of capacity in the , Notational Plane inhibited free work in the Idea Plane. Nor was the Notational Plane cultivated. On the other hand, there was reluctance to cultivate it. There was even opposition to attention being paid to it. The use of popular terms with all their homonyms and synonyms in the Verbal Plane caused confusion in the Idea Plane. Thus, the separation of work in the three planes laid bare the paramountancy of the work in the Idea Plane and the need to allow it to develop unhindered on its own: right. By 1963, the dynamic theory was refined further and some of the new additions included the following:

i)Identification of Property isolates as manifestations of Matter along with Matter,– Material isolates with the result that some of the isolates forcedly included in the earlier years in the 'Problem Schedule', but later named forcedly as "Energy'Schedules", Were in reality Matter–Property isolates.,

ii)Prescription that life indicator digit, (,) 'comma' should be inserted before the first Personality isolate number/,

iii)Capacity of–an array in the Notational Plane was increased by divesting' Roman small letters of anteriorising quality and by restoring to digit (0) ;'zero', its natural ordinal value lying between the digits. 'z' and

iv)Postulation of digits T to Z as Emptying Digits which facilitates interpolation at anypoint P the. Array.

v)The theory in the Idea Plane formulated 18 principles of helpful sequence and –the powerful Wall–Picture Principle for helpful sequence of facets and of isolates.'These findings of the deeper and more dynamic theory of classification consciously developed have been incorporated in Colon Classification Version 3 (Edition 7making it a truly Freely Faceted Analytico–Synthetic Scheme for Classification. Thus, the basic laws, canons and principles enunciated by Ranganathan have greatly contributed to the evolution of the dynamic theory.

The present day theory of library classification is truely dynamic because it is being constantly improved so that it is able to meet the exacting demands made by the growing universe of subjects. The development are taking place at a fast pace. The first edition of Ranganathan's Prolegomena to library classification appeared in 1937. The second edition came out at the gap of 20 years in 1957. The third one appeared in 1967 a gap of 10 years onlu. This edition became out of date in some respects as soon as it came out, and there is an urgent need for revsion now. This goes to show that developments are taking place faster than the revisions being carried out.

DRTC , set up in 1962, has made an important contribution to the dynamic theory of library classification. These development are reported mainly in library science with Slant to Documentation and Proceedings of DRTC Annual Seminar.

Conclusion

Thus the theory of library classification being developed in India, has been found to be truely dynamic. It is a versatile one, found helpful in designing a scheme of library classification. It is equally helpful in practical classification. The theory of library classification, developed by the indian school of thought, is mainly the work of S.R. Ranganathan. There is enough evidence that this theory is beginning to be recognized even outside the country. The author of this work has every hope that this theory would be carried forward by Indian librarians, especially the DRTC team.