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Subject Headings up to the Middle of the 19th Century:

A Generalised View.

(Cataloguing problems. 22). (Subject heading series. 6).

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[Up to the middle of the 19th century, subject headings had been intimately related with the organisational policies of closed access and of static location. Subject headings were used to store the documents in libraries, and to discover and/or retrieve them, or information about them. "One document — one entry" was generally the principle in cataloguing practice up to the end of the 14th century. This entry was the subject entry of the systematic catalogue. "One document — two entries" marked the beginning of multiple entry cataloguing by the end of the 14th century. Of these two, the entry under the subject heading was deemed to be the

main entry of the systematic catalogue, and the entry under the author heading or its substitute was deemed to be the added entry for the Index to the systematic catalogue. By the end of the 15th century, the Index to the systematic catalogue used to be consisted of author, subject, and catch-word of title entries arranged in one alphabetical sequence. By the end of the 16th century, catalogues predominantly consisting of author, translator and subject-reference entries became popular; and in such a catalogue the author entries were deemed to be the main entries. From the last quarter of the 17th century, author-title catalogue gained popularity. By the end of the 18th century, the schemes of subject headings forming the foundation of the systematic catalogue were considerably expanded by incorporating new major subjects and their subdivisions. At the beginning of the 19th century, as a means to overcome the disadvantages of the systematic arrangement of subject headings, the alphabetic-classed catalogue was developed. On the other hand, the dictionary catalogue predominantly made up of author, title, and specific subject entries gained popularity. The choice and rendering of subject headings used to be governed by predesigned schemes of subject headings (schemes for verbal classification). They were either "literary" schemes or "research" schemes. Evidences are available of the existence of more than 100 such schemes. The subjects recognised by these schemes were mostly deemed as if they were all simple subjects.]

1 Introduction

The use of subject-headings in organising documents in libraries, and in discovering and/or retrieving them, or information about them, has been in existence since the beginning of the tradition of libraries. The significance of the use of subject headings in libraries is intimately related with the organisation of libraries. There were considerable common elements in the organisation of the libraries of the period under review. On the basis of the available documentary evidences, it is possible to develop a generalised view about the organisation of those libraries. In the background of such a generalised view of organisation, it should be possible to identify the significance of the use of the various schemes of subject-headings — that is, schemes of verbal classification — used by them. Simultaneously, it should be possible to review the intellectual foundation of the design and development of those schemes in the light of the general theory of subject headings (see Paper D in this issue). Here is an attempt in those directions.

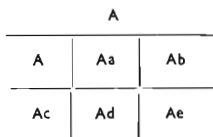
2 Organisation of Libraries

It is possible to recognise unmistakably two primary common elements in the organisation of the libraries of the period under review. They were as follows:

- 1 The policy of "closed access"; and
- 2 The policy of "static location".

These two policies used to be implemented in the following way:

- 1 The store-space used to be divided on the basis of a scheme of subject-headings — predesigned or simultaneously designed — to set apart a "static location" for the documents on each subject recognised by the scheme.
- 2 The store-space for each subject used to be assigned a "location mark" by the library concerned.
- 3 The principle of allocating static locations used to be as represented in the following diagram:



Suppose, "A" was a generic subject comprehending all the subdivisions "Aa", "Ab", "Ac", "Ad", and "Ae". In that case, the store-space allocated to "A" used to be divided among "A", "Aa", "Ab", "Ac", "Ad", and "Ae". This policy was to make provision for the documents dealing with all or several of the subdivisions of "A".

4 A location mark used to be assigned by the library concerned to its corresponding subject in the scheme to indicate its location in the store. If two libraries were using one and the same scheme, there was no guarantee that the location marks for the same subjects should be the same.

5 Each document on the basis of the subject treated in it used to be stored in its static location in the store.

6 The exact position of each document in its static location used to be determined at various points of time on the basis of one or more of various characteristics — such as, the opening word of the text, catch word of the title, authorship, nationality of the author, chronology of origin, chronology of acquisition, size, form, and language.

7 Each document used to be assigned its location mark only perhaps from 12th century.

8 Generally, to start with, after a considerable number of documents were collected and stored according to the scheme, the cataloguing of the documents used to be taken up.

9 An outline of the scheme of subject-headings indicating the location of each subject in the store by its location mark was used (1) to furnish an overall idea about the organisation of the documents in the library; and (2) to aid the use of the catalogue.

3 Cataloguing

31 PRINCIPLE RELATING TO NUMBER OF ENTRIES

Up to the middle of the 14th century, generally, the principle of cataloguing relating to the number of entries used to be "One document—one entry". From about the 5th century, there used to be a tradition of binding together several documents by the same author, or on the same subject. This called for analytical entries for the different documents bound together. Only from 1389, the principle "One document—multiple entry" was introduced in cataloguing practice. Initially it had been only two entries for each document: one under the name of the subject, and the other under the name of the author or its substitute.

32 EVOLUTION OF THE INTERNAL FORM OF CATALOGUE

Up to the middle of the 18th century, the evolution of the internal form of catalogue may be traced as follows:

1 Up to the end of the 5th century, the catalogue was predominantly a systematic subject listing according to a scheme of subject-headings (scheme for verbal classification), the arrangement being, more or less, parallel to the arrangement of the documents in the store. There are inadequate evidences to support that alphabetisation by names of authors under systematic subject arrangement was known to the Greeks and Romans from 200 B. C. Analytical entries for the documents bound together started from 5th century. Up to the end of the 11th century, there was no tradition of using the location mark for each document in the catalogue and in the document. By the end of the 13th century, alphabetisation by names of authors, under systematic subject arrangement was well known.

2 By the end of the 14th century, the catalogue consisted of (a) a main part (shelf list) primarily arranged systematically by names of subjects according to a scheme of subject-headings; supplemented by (b) an index-part arranged alphabetically by names of authors.

3 By the end of the 15th century, advanced cross references as separate entries forming part of the systematic shelf list catalogue became popular. Especially, in the Continent, much emphasis was given on the production of supplementary indexes. As a result, the alphabetical subject index was introduced for the first time in 1480's in Austria and Germany. Besides this, the supplementary index consisting of author, subject, and catch-word of title entries arranged in one alphabetical sequence contributed for the first time to the development of the idea of "Dictionary Catalogue".

4 In 1545, Konrad Gesner popularised the (a) alphabetical summary index of surnames of authors; and (b) alphabetical subject index to the systematic catalogue (shelf list). In his instructions for librarians, he recommended the use of his *Bibliotheca Universalis* (1545) as a substitute for its catalogue by adding its press marks. Florian Trellierus in his *Manual* (1560),

recommended a systematic catalogue (shelf list) supplemented by author and subject indexes. Andrew Maunsell in his *Catalogue* (1595), demonstrated the usefulness of (a) making author entries under surnames only; (b) uniformisation of variant forms of titles—such as, those of the Bible; (c) the dictionary catalogue consisting predominantly of author, translator, and subject-reference entries arranged in one alphabetical sequence; (d) standardisation of the practice of descriptive cataloguing; and of (e) distinguishing the author entry as the main entry of the catalogue.

5 In 1649, John Dury advocated the use of (a) a systematic subject catalogue supplemented by an author index; (b) dynamic location for documents and of (c) printed catalogues. In 1950, the library profession saw one of the earliest dictionary catalogues: In the *Catalogue of the Sion College Library*. Gabriel Naudeus in his *Instructions* (1661), demonstrated systematically the designing of a systematic subject catalogue supplemented by an author index. The author-title catalogue of the Bodleian Library was published in 1674. It incorporated the rules for preparing an author-title catalogue. Andrien Baillet formulated the rules for constructing the author catalogue supplemented by the subject index in 1682 and he advocated the use of such a catalogue.

6 The Harvard College Catalogue of 1723, and the Yale Catalogue of 1743 contributed to the popularity of author-title catalogue in America. In 1791, the French Code for author-title catalogue was published. It happens to be the first national code. It was primarily designed to catalogue the confiscated books in different libraries. This code prescribed the preparation of entries on standard playing card size slips. Perhaps this was the beginning of the use of the principle "Each entry—a separate physical unit". By the end of the 18th century, the schemes of subject-headings (schemes for verbal classification) forming the foundation of systematic catalogues were considerably expanded by incorporating new major subjects and sub-divisions of the major subjects. The catalogues designed on the basis of those schemes—such as, the scheme of Bacon, Horne, Brunet, and others—in the majority of cases were supplemented only by author, collaborator, and catch word of title indexes. Subject indexes were not considered essential by the designer of such catalogues. This attitude of the designers contributed substantially to the unpopularity of the systematic catalogue.

7 At the beginning of the 19th century, as a means to overcome the disadvantages of the systematic arrangement of subject headings, the alphabetic-classified catalogue became popular. An alphabetic-classified catalogue could be one with either all the subject-headings arranged althrough alphabetically, or the main subject-headings alone arranged alphabetically and the subheadings arranged systematically, or the main subject-headings arranged systematically and the subheadings arranged alphabetically. In 1816, the catalogue of the Society of Antiquaries of London

demonstrated the methodology of compiling a true dictionary catalogue. The derivation of the subject headings for this catalogue was not based on any predesigned schemes of subject-headings. The *Bibliotheca Britannica* (1824) of Robert Watt contributed to the growing popularity of alphabetical approach against systematic approach. His work was followed by rapid developments in the field of making provision for alphabetical subject approach in the catalogue. In America, the leadership of popularising alphabetical subject approach was initially taken up by O A Taylor of Andover Theological Seminary, and later on by his assistant Charles Jewett of Brown University. In England, the leadership was taken up by Antony Panizzi, and Edward Edwards. The new development was characterised by the following attributes: (a) The derivation of subject-headings was not directly based on a predesigned scheme of subject-headings (Scheme for verbal classification); and (b) While Watt and Jewett did not prefer to depend upon the terminology of the title-page for the purpose of deriving subject-headings, Panizzi and Edwards advocated the use of the title-page terminology only, for this purpose.

8 Thus, by the middle of the 19th century, various internal forms of catalogues developed. Of these, the following were the important ones:

(a) The catalogue consisting of entries under subject-headings derived and systematically arranged according to a predesigned scheme of subject-headings (scheme for verbal classification) supplemented by subject, author, collaborator, and catch-word of title entries arranged alphabetically (= Systematic Catalogue);

(b) The catalogue consisting of entries under subject-headings derived according to a predesigned scheme of subject-headings (scheme for verbal classification) and arranged either althrough alphabetically; or alphabetically by main subject headings and systematically by subheadings; or systematically by main subject headings, and alphabetically by subheadings; supplemented by author, collaborator, and catch-word of title entries arranged alphabetically (= Alphabetic-Classified Catalogue); and

(c) The catalogue consisting of author, collaborator, and catch word of title entries, and of entries under subject-headings not derived on the basis of a predesigned scheme of subject-headings (scheme for verbal classification), all arranged in one alphabetical sequence (= Dictionary Catalogue).

9 The general consensus about the three major varieties of catalogue, at that time, was as follows:

(a) A systematic catalogue was considered difficult to use. It involved a two-step search strategy, which was deemed to be an additional disadvantage. The foundation-scheme of subject-headings (scheme for verbal classification) was generally considered to be inadequately developed to respond to specific subject queries, even when a subject index is additionally provided; and the systematic arrangement was considered to be incompatible so far as the response to specific subject queries was concerned.

(b) An alphabetico-classed catalogue aimed to overcome some of the disadvantages of the systematic catalogue, but could not prove to be of much help. In regard to specific subject queries its position was in no way better than the systematic catalogue.

(c) A dictionary catalogue was considered to be easy to design and to use. It was considered to be more efficient than other varieties specially in responding to specific subject queries.

33 ITEMS OF INFORMATION IN AN ENTRY

As far as applicable, the items of information about a document that could find a place, at different points of time, in the main entry for it, used to be a selection from among the following:

- 1 Name of the subject;
- 2 Name(s) of the author(s);
- 3 Place of birth or residence of the author(s) (from 18th century);
- 4 Date and/or place of death of the author(s) (from 18th century);
- 5 Title;
- 6 Short title (from 12th century);
- 7 First line;
- 8 Opening words of the text;
- 9 Last word of the second folio (from 15th century);
- 10 First word and the last word of the text (from 15th century)
- 11 Information about edition (from 18th century);
- 12 Name(s) of collaborator(s) (from 16th century);
- 13 Place of publication (from the end of the 16th century);
- 14 Name of the publisher (from the end of the 16th century);
- 15 Date of publication (from the end of the 16th century);
- 16 Name of the printer (from the end of the 16th century);
- 17 Name of the book-seller (from the end of the 16th century);
- 18 Number of lines;
- 19 Number of sheets;
- 20 Number of pages (from 15th century);
- 21 Number of volumes;
- 22 Number of items in the volume (from 6th century);
- 23 Size (from 15th century);
- 24 Format (from the end of the 16th century);
- 25 Value (from 15th century);
- 26 Colour of binding (from 12th century);
- 27 Reference to the items in the volume (from 6th century);
- 28 Introductory note;
- 29 Biographical note;
- 30 Note about doubtful authorship (from 15th century);
- 31 Note about stolen books (from 15th century); and
- 32 Location mark (from 12th century).

4 Schemes of Subject Headings

The designing of the systematic part of the catalogue, the derivation of subject headings for the preparation of the supplementary subject-index, and the designing of the main part of the alphabetic-classed catalogue were to be based on a pre-designed scheme of subject headings (scheme for verbal classification). Such a scheme was either a Literary Scheme—that is, a scheme designed primarily on the basis of the Principle of Literary Warrant (see category 7 (a) of sec 5 of this paper), or a Research Scheme—that is, a scheme designed primarily for the deeper understanding of the purview of the different subjects and their interrelations; and adapted for document classification with necessary modifications on the basis of the Principle of Literary Warrant. Evidences are available of the existence of more than 100 schemes for verbal classification during the period under review. Some of these schemes having clear evidences of being used for organising documents in libraries and for discovering and/or retrieving them, or information about them are mentioned below.

- 1 The scheme of the Assyrian Library (7th century BC). (Literary Scheme).
- 2 The scheme of the Peripatetic Library founded by Aristotle, and designed by himself (4th century B C). (Research Scheme).
- 3 The Greek Scheme (3rd century B C) (Research Scheme).
- 4 The scheme of the monastic library of St Requier (831). (Literary Scheme).
- 5 The scheme of the monastic library of St Emmeram at Ratisbon (probably in 10th century). (Literary Scheme).
- 6 The scheme designed by Aldus Manutius (1498). (Literary Scheme).
- 7 The scheme designed by Robert Estienne (1546). (Literary Scheme).
- 8 The scheme designed by Conrad Gesner (1548). (Research Scheme).
- 9 The scheme designed by Francis Bacon (1623). (Research Scheme).
- 10 The scheme designed by Gabriel Naude (1627). (Literary Scheme).
- 11 The scheme designed by Johannes Rodius for the University of Padua (1631). (Literary Scheme).
- 12 The scheme designed by Claudius Clemens (1635). (Literary Scheme).
- 13 The scheme designed by Garnier (1678). (Literary Scheme).
- 14 The scheme designed by Bouillaud (about 1678), popularly known as the French System, modified successively by Martin in 1740, Deburé in 1768, Barbier in 1806, Achard in 1806, Horne in 1824, and by Brunet in 1842. (Literary Scheme).
- 15 The scheme designed by Leibnitz (1700). (Literary Scheme).
- 16 The scheme designed by Prosper Marchand (1704). (Research Scheme).
- 17 The scheme designed by Girard (1748). (Research Scheme).

18 The scheme designed by Buten Schoen (Probably by the middle of the 18th century). (Research Scheme).

19 The scheme designed by Conyers Middleton (1755). (Literary Scheme).

20 The scheme designed by Ersch (1793). (Literary Scheme).

21 The scheme designed by Ameilhon (1799). (Literary Scheme).

22 The scheme designed by Parent (Probably by the end of the 18th century). (Literary Scheme).

23 The scheme designed by Girault (1807). (Research Scheme).

24 The scheme of the Imperial Library, St Petersburg (1808). (Literary Scheme).

25 The scheme of the Commercial Library, Hamburg. (probably at the beginning of the 19th century). (Literary Scheme).

26 The scheme designed by Bentham (1816). (Research Scheme).

27 The scheme designed by Coleridge (1826). (Research Scheme).

28 The scheme designed by Karl Preusker of Grossenhain (1830). (Literary Scheme).

29 The scheme designed by Ampere (1834). (Research Scheme).

30 The scheme designed by Lindsay (1845). (Research Scheme).

31 The scheme designed by Merlin (1847). (Research Scheme).

32 The scheme designed by M J F M Albert (1847). (Research Scheme).

33 The scheme designed by Schliermacher (1847). (Literary Scheme).

34 The scheme designed by Thienemann (1847). (Literary Scheme).

35 The scheme designed by W D Wilson (1856). (Research Scheme).

5 Intellectual Foundation of the Schemes

The analysis of the intellectual foundation of the schemes of subject headings (schemes for verbal classification) enumerated in Sec 4, gives rise to some noteworthy points as follows:

1 The subjects recognised by the schemes were mostly deemed (more appropriately, postulated) as if they were all simple subjects.

2 This approach had for its implication that the elementary constituents of the universe of subjects were all "Bases" formed by progressive abstraction or generalisation. These basic ideas were all subject denotatives, and each of them used to constitute a simple subject.

3 The simple subjects belonging to the array of order I of the universe of subjects were all postulated ones. This implied that it was helpful to deem them to be mutually exclusive.

4 Each of the subjects belonging to the array of order I of the universe of subjects was amenable to further subdivision on the basis of either definitely ascertainable characteristics, or on the basis of some

convention, with reference to its semantic structure in the dimension specified by the characteristic or the convention concerned. These subdivisions were again deemed as if they were all "Bases" forming simple subjects.

5 Two or more simple subjects of the array of order I might admit of further grouping on the basis of some common attribute giving rise to agglomerates (partial comprehensions), belonging to an array of order less than I. Two or more agglomerates (partial comprehensions) of one and the same order might admit of further grouping up to any point possible and desired.

6 The need of systematic study (research) for deeper understanding of different subjects and of their interrelations called for their classification — that is, grouping or dividing, and ranking — based on a philosophy (theory) relating to their modes of formation, and interrelations. The resulting schemes for classification used to govern the development of the institutional curricula, and the formulation of research programmes. Institutional curricula, and research results used to govern the creation of works and the production of documents on the various aspects of the subjects recognised by the different schemes for classification.

7 The development of the schemes of subject headings (schemes for verbal classification) for the organisation of documents in libraries, and for discovering and/or retrieving them, or information about them, took place in two distinct directions as follows:

- (a) In one direction, firstly the subjects embodied in documents only, were recognised for incorporating them in the scheme, and secondly, they were grouped or divided and ranked on the basis of some principles deemed to be helpful for the purpose in hand. In other words, they were developed on the basis of the Principle of Literary Warrant. For convenience of reference, they may be called "Literary Schemes"
- (b) In another direction, the schemes primarily developed for systematic study and research for the purpose of deeper understanding of the subjects and of their interrelations, used to be adapted with necessary modifications on the basis of the Principle of Literary Warrant. For convenience of reference, they may be called "Research Schemes".

6 Linguistic Problems of Subject Heading

It may be noted in this connection, that so long there was no attempt to supplement the systematic part of the catalogue by an alphabetical subject index, the linguistic problems associated with the naming of subjects for the purpose of discovery and/or retrieval were not sensed. They were not consciously sensed even at the initial stage of the introduction of the alphabetico-classed catalogue to overcome some of the difficulties of the systematic catalogue without supplementary subject index. These problems were first "consciously sensed when the preparation of the supplementary subject index to the systematic part of the catalogue was first attempted in 1480's, specially in

the Continent. The need of

- 1 Standardising terminology;
- 2 Using cross references; and
- 3 Standardising the practice of naming multi-worded names of subjects was gradually and acutely felt when the preparation of the entries under specific subject headings for the dictionary catalogue was widely practised by the middle of the 16th century.

7 Source Documents

The generalised view about the development of subject headings, furnished in the earlier sections, is developed on the basis of the evidences available in the following documents:

- 1 AKERS (S G). Simple library cataloguing. Ed 6 1969.
- 2 BESTERMAN (T). Beginnings of systematic bibliography. Ed 2. (Rev) 1936.
- 3 BLISS (H E). Organisation of knowledge and system of sciences. 1929.
- 4 CUTTER (C A). Rules for a dictionary catalogue. Ed 4. 1904.
- 5 HANSON (E R) and DAILY (J E). Catalogs and cataloguing. (In Kent (A) and others, Ed. Encyclopedia of library and information science, V 4. 1970. P 242-305).
- 6 JOHNSON (E D). History of libraries in the western world. 1965.
- 7 KENT (F L) and others. Library. (In Encyclopedia Britannica. V 13. 1965. P 1031-62).
- 8 KER (N R). Medieval libraries in Great Britain. Ed 2. 1964.
- 9 NORRIS (D M). History of cataloguing and cataloguing methods 1100-1850: With an introductory survey of ancient times. 1939.
- 10 PANIZZI (A). Minutes of evidence. (In Olding (R K), Ed. Readings in library cataloguing. 1967. P 5-29).
- 11 RANGANATHIAN (S R). Prolegomena to library classification. Ed 2. 1957.
- 12 RANZ (J). Printed book catalogue in American libraries: 1723-1900. 1964.
- 13 RICHARDSON (E C). Classification: Theoretical and practical. Ed 3. 1964.
- 14 SAYERS (W C B). Manual of classification for libraries and bibliographers. Ed 3 (Rev). 1963.
- 15 SHARP (H A). Cataloguing: A text-book for use in libraries. Ed 5. 1964.
- 16 STROUT (R F). Development of the catalog and cataloguing codes. (Library Quarterly. 26; 1956: 254-275).
- 17 THOMPSON (J W). Medieval library. 1957.
- 18 VERNER (M). Adrien Baillet (1649-1706) and his rules for an alphabetical subject catalogue. (Library Quarterly. 38; 1968; 217-230).
- 19 WITTY (F J). Pinakes of Callimachus. (Library Journal. 28; 1958; 132-6).

Note: The paper is based on a presentation in the DRTC Refresher Seminar on Subject Headings held on 9-14 August 1973.