UNIT 10 DEWEY DECIMAL CLASSIFICATION (DDC)

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10.1 OBJECTIVES
This Unit introduces you to the theory and practice of Dewey Decimal Classification (DDC).
After reading this Unit, you will be able to:

- obtain an insight into the underlying principles and characteristic features of DDC;
- assess the strengths and weaknesses of DDC; and
- classify documents according to DDC 19th edition.

### 10.1 INTRODUCTION

You are now aware that library classification is an indispensable tool for arranging books and their entries by subject. Such an arrangement alone can ensure the identification and location of unknown items on a given subject in a collection. Having studied the theoretical background presented in the previous Blocks, you are now required to be familiar with three schemes of library classification one of which is DDC. Dewey Decimal Classification is the most popular of schemes, at least in the English-speaking world.

This Unit traces the origin, evolution and growth of DDC over the past 120 years. It specifically presents its outline in respect of subject classification, notation, other devices and the mechanism of revision. The Unit also discusses its most lasting contribution to library classification, viz., and the relative index. The Unit particularly provides a detailed description of the 19th edition of DDC, which is envisaged to serve as a study guide in practical work.

Lastly, the Unit evaluates DDC and points out both its strength and weaknesses.

In order to get the best out of this Unit, it is very necessary for you to have access to a set of DDC, 19th edition, for constant reference.

### 10.2 GENESIS OF DDC

Melvil Dewey was born in Adams Center, New York, on December 10th, 1851. He was the son of a small storekeeper and, at the age of five, it is said that he rearranged his mother's larder - which is the place where provisions are stored - in a more systematic manner. He came to librarianship through a process of self education, a few years of teaching followed by higher studies at Oneida Seminary, Alfred University, and finally at Amherst College. He obtained a post as student library assistant in 1872 at the same college. In the following year, he put forward a plan for rearranging the library in a more systematic way. He was promoted in 1874 to the post of Assistant College Librarian. In 1876, he anonymously published his classification scheme, which had far reaching effects. Apart from the classification scheme, which bears his name, he also had many other contributions to his credit. He became the first editor of the Library Journal in 1876, a founder member of the American Library Association in 1876 and later its first Secretary. He also founded the first librarianship school in the United States (Columbia University) in 1887, promoted the standard catalogue card (12.5 x 7.5 cm) and took an active interest in all aspects of librarianship.

#### 102.1 First Edition

The publication of a 42-page pamphlet entitled A classification and subject index for cataloguing and arranging the books and pamphlets of a library in 1876, heralded the beginning of both DDC and library classification. This was the first edition, which consisted of 12 pages of preparatory matter, 12 pages of tables and 18 pages of index, a total of 42 pages. One thousand copies of this first edition were printed. It contained nearly 1000 classes. It was, however, criticised as being too minute in its subdivisions for a majority of libraries. Within a very short time it, nevertheless, became extremely popular and was soon adopted by many libraries in the United States and other countries. The original 42-page anonymous pamphlet culminated, in the course of time, in a monumental work of over 3,000 pages. According to a recent survey, over 85 per cent of all types of libraries in the USA and Canada use DDC. It has been adopted in all five continents of the world.
Dewey Decimal Classification

10.2.2 Salient Features

Dewey was not the first to introduce subject arrangement of books in libraries. He was, however, the first to introduce the following innovative features in subject arrangement:

1) The concept of relative location
2) Decimal notation
3) Detailed specification
4) Relative index

**Relative location:** It is difficult to think of relative location as an innovation today, as the principle is taken for granted now. Dewey introduced it when fixed location was the practice. In those days, books were identified by their location on the shelves. A certain number of shelves and a block of accession numbers were allocated to each subject in a library. Each book bearing only the accession number would be placed on a particular shelf earmarked for it according to its subject. The books were, thus, identified by their exact position, room, bay, tier, shelf and place on the shelf. These shelf marks were given to books. Once allocated, the shelf mark denoted the permanent home of a book in that library.

This arrangement was not satisfactory. With new acquisitions, it necessitated changes in the shelves and their marking. This constant shifting and marking set Dewey in search of a better alternative. Finally, Dewey found the answer to this problem in his principle of relative location. Dewey ordered subjects in a sequence, assigned a notation to them and marked books, and not shelves, with this notation. It was now possible to interfile new accessions without disturbing the existing sequence. Each book in a library secured a position in relation to other books in the same subject. I& are aware that notation mechanises the arrangement of books on the shelves, that is, it assigns a relative location to each book. This relative location could be easily achieved because of another innovation introduced by Dewey, viz., decimal notation.

**Decimal notation:** The decimal notation used in DDC refers to the principle of dividing each class into ten sub-divisions and each of these sub-divisions into another ten sub-divisions and so on. This feature in DDC equipped it with a tremendous capacity for expansion to accommodate minute sub-divisions without the necessity of relocation. The first edition of DDC stopped with the division at the third place, though it continued, as suggested by Dewey, to a fourth or fifth place, if necessary, in the catalogue. The pure simplicity of notation soon won popularity for the scheme.

**Detailed specification:** The relative location, combined with decimal notation, made it easier to specify more detailed sub-divisions. Before Dewey introduced the idea of relative location, the number of subject groups into which the books in a library could be arranged was severely limited. Once the idea of moving books at any point to accommodate additions was accepted, it became possible to specify more detailed sub-divisions. Dewey listed nearly one thousand subjects in his first edition. The DDC 19th edition, lists 21,504 classes (other than auxiliary tables) with provisions for greater synthesis and is still considered not minute enough. By and large, the development of DDC has been one of steady expansion with provision for increasing the amount of detail.

**Relative index:** One of the objections to classified catalogue and systematic arrangement had been the problem of knowing just where to look for a book. Dewey provided the solution to this problem in the shape of the relative index. His relative index showed exactly where to find a given topic. Another advantage of the relative index was that it showed those aspects of a subject, which the systematic order scattered throughout the scheme. Yet another advantage of Dewey's relative index was that it also listed the synonyms in many cases.

These innovations are now taken for granted in library classification. It is "very important to remember, however, that it was not so when Dewey started his work. Dewey's scheme was truly modern in many respects. He anticipated many of today's developments including the principle of synthesis and facet structure, even though he did not recognise them explicitly.
**Self Check Exercise**

1) Having understood the genesis of the scheme, name the four innovative feature of DDC.

**Note:**

i) Write your answer in the space given below

ii) Check your answer with the answers given at the end of this Unit.

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**10.3 SUBSEQUENT EDITIONS**

In 1885, the second edition of DDC appeared with the title Decimal Classification and Relative Index under which title twelve more editions were published. The second edition was much larger in size and more detailed than the first.

Twelve more editions appeared during the next 57 years at different intervals. The intervals between editions ranged from two to 12 years. Development of DDC up to the 14th edition was a progressive record of a clear policy pursued successfully by Dewey throughout his life. These editions, the third through fourteenth, closely followed the pattern set by the second edition. Progress was mainly in the direction of ever increasing detail without much change in the basic structure of the scheme. The later editions dutifully kept up the promise given that the numbers were settled.

**10.3.1 Fifteenth Standard Edition**

Special mention must be made of the fifteenth edition as it departed from the hitherto followed policy of integrity of numbers. In 1951, the fifteenth edition appeared under the editorship of Milton Ferguson. This was the first edition to be designated, on its title page, as Dewey Decimal Classification and Relative Index. This edition halted the process of extensive expansion without any true revision. Till the expansion had not always been balanced and reflected a YN1=11 approach to revision. It was not always based on literary warrant,

After publication of this edition it soon became clear that the changes, particularly the relocations, proved too much for the practising librarians. Most of them did not accept the new edition and continued with the fourteenth. Criticism of the fifteenth edition was fierce and vehement- Many critics even pronounced the scheme dead.

**10.3.2 Sixteenth and Later Editions**

The sixteenth edition appeared in 1958 edited by Benjamin Custer. This set, the pattern of the seven-year revision cycle. This edition went back to the detailed enumeration of the fourteenth edition and relocated some topics back to their original places. But the better relocations of the fifteenth edition were retained. It continued some of the innovative features of the fifteenth edition such as standard spelling, current terminology and a pleasing typographical presentation. The index was published as a separate volume and was relatively more detailed than that of the fourteenth edition. The sixteenth edition also contained the first of the Phoenix schedules.

The seventeenth through nineteenth editions, also under the editorship of Custer, were developed along similar times. Each edition, while observing the policy of integrity of numbers, showed concern to keep pace with knowledge within reasonable bounds.

**10.3.3 Twentieth Edition**

The twentieth edition of DDC was published in 1989 and edited by J. P. Comaromi. It is in four volumes: V-1 Introduction and Tables, V-2 Schedules (000-500), V-3 Schedules (600-90) and V-4 Relative Index and Manual. Each volume is separately paginated. The four volumes together consist of 3a08 pages and as composed of the following major parts.
Volume-1: This volume consists of the following three parts:

A. Introduction: Introduces the user to DDC and provides instructions on how to use it.

B. Tables: The seven auxiliary tables with notation that can be added to the class number in the schedules.

C. Lists which compare Editions 19 and 20. Relocations, reductions, etc.

Volumes 2 and 3: These two volumes are the main body of the scheme.

V-2 (000-500), V-3 (600-900)

D. Schedules - Knowledge organised from 001-999.

Volume 4: This volume consists of the following two parts:

E. Relative Index: An alphabetical list of subjects found in the schedules and tables.

F. Manual: It assists the classifier for classifying difficult areas.

In the development of DDC-20, the year 1988 witnessed two important events, which had profound effect on the future of DDC. On July 29, 1988 a computer tape containing substantially all the text of DDC-20 was delivered to a firm in Massachusetts to begin production of this edition. The Forest Press and DDC became part of Online Computer Library Centre (OCLC), the Ohio-based non-profit organisation.

The twenty-first edition of DDC was published in 1996. The format is the same as that of the 20th edition.

10.3.4 Abridged DDC

In order to meet the needs of small and slowly growing libraries, an abridged edition of the scheme was issued in 1894. The abridgement was about two-fifths the size of the full edition. At present, the abridged version is in its eleventh edition. This eleventh edition was published shortly after the nineteenth full edition. This parallel series of abridged editions, intended for small libraries not requiring a high degree of specificity, contains notations rarely exceeding five digits. The abridged edition is used by most of the school libraries and many small public libraries in the United States of America. It is also widely used in other countries.

Self Check Exercise

2) In which years were the 15th, 16th and 20th editions of DDC published?

Note: i) Write your answer in the space given below

ii) Check your answer with the answers given at the end of this Unit.

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10.4 UNDERLYING PRINCIPLES

The introduction to the first edition of DDC contained no precise statement on principles regarding the sequences of classes. Dewey acknowledged his indebtedness to Natale Battezzati; Jacob Schwartz and W.T. Harris. From his reference to Harris, the philosophical basis of DDC can be traced.

10.4.1 Philosophical Basis

The field of library classification owes much to the contributions of logicians and philosophers: The roots of library classification are to be found in philosophy. This is true of DDC also.
The division of the main classes was based on an earlier classification, developed by Harris in 1870. This in turn is said to have been based on an inverted order of Francis Bacon's chart of learning.

10.4.2 Classification by Discipline

It is commonly said that library classification groups together materials on the same subject. It is an over simplification. Barring a few, most classification schemes are based on the principle of classification by discipline. The distinctive feature of DDC, from the beginning has been that the division of main classes and subclasses is based on academic disciplines or fields of study rather than the subjects. As a result, the same subject may be classed in more than one place in the scheme. For example, the subject copper may be classed in chemistry, metallurgy, mineralogy, chemical technology and so on depending on the author's approach. This approach is known as classification by discipline, which is different from one-place classifications. Dewey Decimal Classification is an aspect classification, which distributes the subject according to the context. For example, the chemical aspect of copper would be in chemistry, the metallurgical aspect in metallurgy and so on. This approach of DDC was probably correct, as subjects are approached from the discipline point of view by most users in the majority of cases. This is in contrast with the approach of Brown to the problem of collocation in his Subject Classification.

In DDC, the Universe of Knowledge was divided into nine basic classes, viz., Philosophy, Religion, Sociology, Philology, Natural Science, Useful Arts, Fine Arts, Literature and History. These classes were academic disciplines in Dewey's time. Today, many of these main classes like Natural Science, Useful Arts, Sociology, etc., include several academic 'disciplines.

10.4.3 Hierarchical Structure

Dewey Decimal Classification is basically a hierarchical scheme, based on the general principles of division. It begins with the Universe of Knowledge as a whole and divides it into classes and subclasses at successive stages of division with a certain characteristic as the basis at each stage. On the whole, the progression is from the general to the specific, forming a hierarchical structure.

Due to the notation adopted, at each stage of division, only ten sub-divisions are possible. Each class is subordinate to the level above it, superordinate to the level below it and coordinate with classes at the same level, thus forming a hierarchical structure.

10.4.4 Practicality

Dewey claimed that "everywhere, philosophic theory and accuracy have yielded to practical usefulness". Thus, DDC has the heritage of pragmatism and commitment to usefulness. Dewey and later the editors of DDC have been committed to meeting and solving the problems of use. It is this quality which has contributed to the durability of DDC.

Self Check Exercise

3) What forms the basis of the outline of the main classes in DDC?
4) Name the main principles adopted by DDC.

Note: i) Write your answer in the space given below
ii) Check your answer with the answers given at the end of this Unit.
10.5  REVISION PROCESS

One other factor which has contributed to the durability of DDC has been its sustained programme of revision and updating. Revisions usually take the following forms:

- Expansion
- Reduction
- Relocation

**Expansion** is undertaken in order to accommodate new subjects as well as to provide more minute and specific sub-divisions under the existing subjects. This is a reasonable approach as most new subjects emerge as an outgrowth of an existing field of knowledge. With increasing specialisation, library materials also tend to be more specific and, thus, require more minute sub-divisions of the existing subjects.

**Reduction** consists discontinuing very rarely used existing sub-divisions. Such topics are, then, classed with the more general topic.

**Relocation** of a number of existing subjects takes place in every new edition.

**10.5.1 Phoenix Schedules**

This is a piecemeal approach to bring DDC up-to-date. Certain schedules, which are out of date and require drastic changes, are replaced with entirely new classifications. The earlier schedules of some one or two major disciplines are destroyed and new schedules are completely recast and their arrangement is remoulded in each of the recent editions of DDC since the sixteenth edition. These new schedules rising out of the ashes of the destroyed old schedules are called Phoenix schedules. The policy of integrity of numbers is dispensed with and the entire schedule for a certain discipline or topic is reconstituted without regard to the previous divisions. In recent editions, the following schedules have been given the Phoenix treatment.

130 Pseudapsychology, Parapsychology (occultism) and 150 Psychology in the 17th edition.
301-307 Sociology, 324 Political process and -41 and -42 Area notations for Great Britain.

**10.5.2 Organisational Set-up**

The responsibility for the maintenance of DDC rests with Forest Press, a wholly owned subsidiary of the Lake Placid Education Foundation which Melvil Dewey set up to carry on his work. Editorial work is carried out under contract at the Library of Congress, though the Forest Press continues to market and publish DDC. In between these two organisations is a group called DDC Editorial Policy Committee composed of practising librarians and library educators who advise the Forest Press and the editor on matters relating to revision.

**10.5.3 Procedure of Revision**

Each new edition is based on the previous edition. Taking into consideration the response of the users to the immediately preceding as well as earlier editions, the editors, in consultation with the DDC Editorial Policy Committee, determine which schedules require what degree of revision and review. Major revisions are prepared with the advice of subject experts. The main principle has been to, satisfy the needs of diverse users who include practitioners in small and large public and research libraries as well as teachers and students.

To keep users of DDC informed of developments regarding the scheme, DDC Additions, Notes and Decisions is published at intervals. This bulletin is a useful pointer to changes to be incorporated in due course in the DDC schedules.
10.5.4 Use of DDC

Though DDC was criticised often, it was adopted by libraries rapidly and widely both at home and abroad. Surveys of the use of DDC prove this fact. Its use was so substantial even by 1901 that in that year the American Library Association's Catalog Section voted unanimously that DDC numbers should appear on the ensuing Library of Congress printed catalog cards. Hence, due to mounting pressures from the profession, an office was established in the Library of Congress in 1930 for assigning DDC numbers to the titles catalogued by the Library. Following the LC example, H.W. Wilson Company's catalog cards and standards catalogs, the ALA:S Book List, R.R. Bowker's Publishers' Weekly and American Book Publishing Record, and, later British National Bibliography's catalogue cards and bibliographies, started providing DDC numbers to specific titles.

Self Check Exercise

5) List the various forms of revision of DDC.
6) What is a phoenix schedule?

Note: i) Write your answer in the space given below
   ii) Check your answer with the answers given at the end of this Unit.

10.6 DDC 19th Edition

In pursuance of the seven-year revision cycle, the -ninth edition of DDC appeared in 1979. The scheme continues the developments seen in the three previous editions. It attempts to consolidate the generally accepted and well-received revisions and additions included in the earlier two editions. In the words of the DDC Editorial Policy Committee "It has been faithful to stability where stability is more useful than change, and it has been changed where a new vision serves us better than the old".

There are more entries, provision for more topics and therefore more opportunities to build numbers. The scheme now has greater potential for detailed classification, much more than what the 21,504 entries in the schedules suggest.

DDC 19th edition appeared in three volumes: Volume 1 - Introduction: Tables; Volume 2 - Schedules; and Volume 3 - Relative Index. This was the fourth and final edition to appear under the editorship of Benjamin Custer who took over the task following the fiasco of the fifteenth edition. Even though Volume I (Tables) and Volume 3 (Relative Index) are very important auxiliaries, Volume 2 (Schedules) forms the core of the scheme. We would do well to treat it at length.

10.6.1 Schedules

Schedules are, the main part of the scheme, consisting of 21,504 entries into which the Universe of Knowledge is divided and sub-divided at successive stages of division till the desired level of specificity is obtained.

Basic plan: In accordance with the scheme's basic principle of division by discipline, the
Dewey Decimal Classification

The nineteenth edition also continues with the same ten divisions of the Universe of Knowledge with nine main classes and one generalia class. Many of these main classes like Pure Sciences, Technology, and Social Sciences include several academic disciplines. The modern grouping of disciplines is into areas of studies like the Humanities, Social Sciences, Pure Sciences and Applied Sciences. In DDC, disciplines like Philosophy, Language, Literature, etc., which come under the Humanities are treated as coordinate subjects with Social Sciences, Pure Sciences and Applied Sciences. The fact that six of the nine main classes in DDC belong to the field of Humanities reflects the state of learning in the nineteenth century. Dewey gave each of classification status equal to that of Social Sciences, Pure Sciences and Applied Sciences.

In the first division of ten main classes, 0-9 which embraces the whole of human knowledge, the class 0 is used for Generalities. The DDC Generalities includes general newspapers and encyclopaedias and other works dealing with many subjects from many points of view, and also certain specialised disciplines that deal with knowledge generally, such as library and information science, museology and journalism. Each of the main classes 1-9 consists of a major discipline (area of study). Following are the ten main classes with their assigned meaning:

- 000 Generalities
- 100 Philosophy and related disciplines
- 200 Religion
- 300 Social Sciences
- 400 Languages
- 500 Pure Sciences
- 600 Technology (Applied Sciences)
- 700 The Arts
- 800 Literature (Belles-lettres)
- 900 General Geography and History and their auxiliaries

Thus, the ten main classes are represented by the numbers 000 to 900. In these numbers, the digit occupying the, first position, that is, 0, 1, 2, 3, 4...9 convey the assigned meanings. These are the substantive digits of the main class numbers 000/900. The two terminal zeroes are added to fill out a number to three digits. This is in accordance with the three digit minimum principle of DDC introduced in the second edition. These terminal zeroes are given their normal arithmetical value. Thus, the notation used to designate each class consists of a hundred three-digit numbers, e.g., 500-599 for the Pure Sciences.

**Divisions:** Each main class consists of ten divisions, numbers 0-9. These division numbers occupy the second position in the notation. For example,

```
Main class number
↑
5 00 = Pure Sciences
↓
Fillers
```

```
Main class number
↑
5 1 0 = Mathematics
↓
Division number
Filler
```

Division 0 within each main class is used for general works on the entire main class and divisions 1-9 for subdivisions of the main class. For example, 50 is devoted to general works on Pure Sciences. Each division can be further subdivided into ten sections, and nine sections.
in the case of general works division. Thus,

- 501 Philosophy
- 502 Miscellany
- 503 Dictionaries and encyclopedias
- 504 Vacant
- 505 Serial publications
- 506 Organisations
- 507 Study and teaching
- 508 Travel and surveys
- 509 Historical and geographical treatment

Thus, digits 1-9 in the third position of the above set of numbers indicate the sections of the division 0 (in the second position) of the main class 5. In other words, the third position stands for the section.

**Sections:** Likewise, each division, say 51 Mathematics, 52 Astronomy, 53 Physics and so on, is capable of having ten sections. Thus, the full span of section numbers for each division in the above example is 510-519, 520-529, 530-539 and so on. In the sections, the 0 in the third position in the number is applied to general works on the entire divisions, and 1-9 are used for subdivisions. For example, 530 is assigned to Physics in general and 531-539 to the sub-divisions of Physics. The scheme permits further sub-division to any degree desired in the same manner of successive division into ten classes in line with the decimal notation. A decimal point is placed between the third and fourth digits. Thus, 536 heat is divided into

- 536.1 Theories
- 536.2 Transmission
- 536.3 Radiation
- 536.4 Effects of heat on matter
- 536.5 Temperature
- 536.3 Radiation is further divided as
  - 536.31 Reflection
  - 536.32 Refraction
  - 536.33 Radiation
  - 536.34 Absorption

Here, in this particular example, the division stops at the fifth order of division. But, it need not always necessarily be so. A class number is divided till the desired specificity is obtained. There is no limit to the number of digits following the decimal point. To illustrate this, let us take another example.

- 390 Customs, etiquette, folklore
- 394 General customs
- 394.2 Special occasions
- 394.26 Holidays
- 394.268 Specific holidays
- 394.268 2 Religious
- 394.268 28 Christian
- 394.268 282 Christmas

You will notice that a space is left between the sixth and seventh digits. The space between the sixth and seventh digits of the last three numbers in the above example is not a basic part of the notation. These spaces are left after every three digits beyond the decimal point in all numbers for ease in reading and copying.

Even though, as a rule, the notation 0 is reserved for general works in the class in which it appears, there are many instances of the use of this notation for special purposes, for example, 301-307 Sociology. There are several such instances at further levels of divisions.
Self Check Exercise

7) Briefly explain the use of the digit 0 in the DDC notation for the schedules.

8) What do you understand by the three-digit minimum principle in DDC?

Note: i) Write your answer in the space given below

   ii) Check your answer with the answers given at the end of this Unit.


010.6.2 Notation

The notation of DDC has been at once an asset and a bottleneck. Dewey adopted a pure notation (almost pure with only occasional use of letters) based on the Indo-Arabic numerals. This choice of numerals made the scheme universally acceptable, but restricted its capacity to derive only nine places at each stage of division, as the zero is ordinarily used for general works.

Hierarchy in notation: Another major characteristic of the notation is its hierarchical structure. Dewey decided that the notation should express the hierarchical order of classes. Hierarchy in notation means that at each level there is an array of mutually exclusive classes, which are coordinate to each other. The specificity of the class increases with each successive level of division, that is, the classes get progressively more specific. The classes at any given level are subordinate to the class at the level above it and super-ordinate to the classes below it. The following example illustrates the hierarchical structure present in both the notation and the structure:

500 Pure Sciences
510 Mathematics
516 Geometry
516.3 Analytic Geometries
516.37 Metric Differential Geometries
516.372 Euclidean

As the classification progresses from the general to the specific, each level of division is indicated by the addition of one new digit. There are a few exceptions to the hierarchical structure. They are:

i) Sometimes spans of numbers are used to express subjects. They are shown in the schedule as centered entries, so called because they appear with numbers, headings and notes centered on the page instead of with numbers in the usual number column. For example, the span, .541-547 represents Chemistry.

ii) The sub-divisions of a discipline or topic are not always subordinated to the notation for the discipline or topic. This is resorted to because of the availability of spare notation and a desire to shorter notation. For example, 574 denote biology and its sub-divisions. Botanical sciences and Zoological sciences are classed at 580 and 590 respectively 'ether than at 574.
10.6.3 Tables

The DDC has been getting progressively less enumerative and more analytico-synthetic in recent editions. Many numbers exit which are no enumerated in the schedules. These numbers can be obtained by synthesising different numbers. This is possible because of the auxiliary tables. These tables are provided in Volume I -- Introduction: Tables. -

Volume 1, in fact, consists of three parts:

i. Introduction
ii. Tables
iii. Summaries

In the introduction part, the editor’s introduction describes the basic characteristic of DDC, the notable features added to the new edition, the basic plan of DDC and the rules regarding the practical use of DDC. Up to the eighteenth editions, Melvil Dewey’s introduction to the twelfth was included at this place. The nineteenth edition does not, however, include it as a separate feature, but as part of the editor’s introduction. This is an important part of the scheme and must be studied carefully by those wishing to use DDC 19th edition.

The nineteenth edition contains the same seven tables of the eighteenth edition, with some change and expansions. The seventeenth edition had only two tables: Area table and standard subdivisions. Five more tables were added in the eighteenth edition. The following seven tables appear in the new edition:

Table 1 : Standard Subdivisions
Table 2 : Areas
Table 3 : Subdivisions of Individual Literatures
Table 4 : Subdivisions of Individual Languages
Table 5 : Racial, Ethnic, National Groups
Table 6 : Languages
Table 7 : Persons

Of these seven tables, the Areas table occupies most number of pages in this volume. Currently, the four most commonly used tables are Standard subdivisions, Geographical subdivisions, Individual literatures and Individual languages. The notations from these tables are never used independently, but always in combination with the main numbers.

Tables 1, 2, 5 and 7 can be used as required with any appropriate number from the schedules. They are, applicable to the entire range of class numbers 000 to 999. Notations from Table 1, Standard subdivisions, can be added directly to any number from the schedules or with the introduction of additional zeroes, if the zero is not reserved for general works and a notation beginning with a zero (or 00, or 000 as the case may be) has been used for special purposes.

The notations from Tables 2, 5 and 7 maybe used as required either directly when so instructed, or with the interposition of appropriate standard subdivisions such as 09 for areas, 089 for racial, ethnic and national groups and 088 for persons.

The notations for Table 6, languages, also have applicability throughout the schedules, but their use is restricted to only those numbers from the schedules and other tables wherein the classifier is specifically instructed.

The notations of Tables 3 and 4 are applicable only to their respective main classes, literature, and languages. The notations of Table 3 can be used as required with the base numbers of individual literatures identified by an asterisk (*) under 810-890. Similarly, notations of Table 4 may be used as required with the base numbers for individual languages identified by an asterisk (*) under 420-490.

These tables have greatly enhanced the potential for details in DDC.

Summaries: The three summaries provided at the end of Volume I give an outline of the schedules in Volume 2. These summaries illustrate how the Universe of Knowledge is divided.
in DDC, the total number of main classes and their sub-divisions and the gaps left for future use, etc. About a thousand divisions have been enumerated in the third summary. These summaries act as a guide for understanding the specific divisions in Volume 2 and are of help for the beginner.

**Self Check Exercise**

9) Name the seven tables of DDC.

**Note:**

i) Write your answer in the space given below

ii) Check your answer with the answers given at the end of this Unit.
Self Check Exercise

10) Briefly explain how the relative index supplements the classification in the schedules?

Note: i) Write your answer in the space given below

ii) Check your answer with the answers given at the end of this Unit.

10.6.5 Other Features

DDC 19th edition also contains other features. These are synthetic devices, add to
device, special topics for general applicability, mnemonics, optional provisions and,
above all, efforts

architecture
s.a. spec. kinds of bldgs.

building
materials

building
engineering
foundations
naval design
shipbuilding
structures
s.a. other spec. uses
metallography
metallurgy

physical & chemical
soc. & econ. aspects see
Secondary industries
mineral aspects
economic geology
mineralogy
mining
technology
prospecting
s.a. spec. minerals
pharmacology
misc. aspects see Pharmacology

Products
arts see Copper arts
mf. tech.
other aspects see
Nonferrous metals
products
roofing
bldg. construction

soaps
chem. tech.
towards universality. These features are important because they have made DDC more synthetic, mnemonic, versatile and universal. Without acquaintance with these features, our study of DDC would certainly be incomplete. These are discussed in the following subsections.

### 10.6.6 Synthetic Devices

The capability of DDC to provide for minute or detailed classification has been greatly enhanced by its synthetic devices. Steadily and increasingly DDC has been incorporating in it the principle of synthesis along with enumeration. The synthesis is achieved through the use of the Seven Tables. In addition, there is another device called add to instructions which facilitates detailed specification with economy of presentation.

#### 10.6.7 Add to Device

This add to device is a potential tool for synthesis and the measure of its use has greatly increased in recent edition of DDC. The add to device is a note which provides an opportunity to expand a given number or series of numbers whose subdivisions are not enumerated under that number or series in the schedule. The add to device is of the following kinds:

1) **Add from tables:** Notations from Tables 2-7 may be added to certain numbers in the schedules to make them more specific. These instructions under certain numbers indicate exactly what may be added, from which table to what base. For example, under 325.4-9 International migration by specific continents ... etc., there appears the instruction 'Add "Areas" notation 4-9 from Table 2 to base number 325'. This means that for a book on migration to India, for example, the number -54 for India from Table 2 is to be attached to 325 resulting in the compound number 325.54.

2) **Add-from schedules:** Similarly, certain numbers in the schedules may be made more specific by adding appropriate numbers from other places in the schedules. For example, 632.6 Animal pests. The instruction here reads 'Add to base number 632.6 the numbers following 59 in 592/599, e.g., snails 632.643.' Sometimes a complete class number is added to another class number, e.g., 339.48 Consumption of specific commodities and groups of commodities. The instruction reads 'Add 001-999 to base number 339.48, e.g., consumption of agricultural products 339.486 3.' Sometimes one 'add to' instruction leads to another, e.g., 581.21 Pathological physiology. The instruction reads 'Add to base number 581.21 the numbers following 581.1 in 581.11-581.19: At 581.16 Reproduction there is another instruction, which reads 'Add to base number 581.16 the numbers following 574.16 in 574.162 to 574.166'. Thus, if a classifier wants to build a number for Pathological physiology of sexual reproduction, he has to first pick the number 581.21 and add 6 Reproduction from 581.16 and, following the instruction at 581.16, add 6 taken from 574.166 Sexual reproduction resulting in the synthetic number 581.216 6.

3) **Add from both tables and schedules:** Sometimes numbers are derived by adding first from a table and then from a schedule, or in the reverse order.

### 10.6.8 Special Topics of General Applicability

The principle of special topics of general applicability refers to the sub-division of a subject according to a characteristic having general applicability to its (subject's) subdivisions, which are based on different characteristics.

It is essentially a device for enabling a basically enumerative scheme to cope with more compound subjects than might otherwise be possible. This device removes the rigidity of a fixed hierarchy to a certain extent. For example, the subject Animal husbandry can be divided into specific activities like selection and acquisition, breeding care and maintenance, etc. The same subject of animal husbandry can also be divided by specific animals like horses, cattle, etc. The specific activities like breeding, etc., are also applicable to any of the-specific animals. Thus, we have 636 Animal husbandry, 636.08 Generalities, 636.1 to .9 various kinds of animals. The generalities like breeding, etc., are applicable to any of the divisions from 636.1 to 636.9. Thus, breeding horses would be given the number 636.1082. This is achieved through an add to instruction.
These synthetic devices also enhance the mnemonic quality of the DDC notation. Let us now see briefly the mnemonic features in DDC.

### 10.6.9 Mnemonic Features

The DDC achieves mnemonics in notation with the use of synthetic devices like tables and add to instructions. Thus, we have an example of systematic mnemonics. The DDC notation also achieves mnemonic power by similarity of numbering for certain related classes. For example, in 800 Literature, the notation 1 Poetry, 2 Drama, 3 Fiction, 4 Essays, etc., is consistently used for literature in all languages. Thus, we have 811 American poetry, 821 English poetry and so on.

**Self Check Exercise**

1. Briefly explain the add-to device in DDC

   **Note:** i) Write your answer in the space given below

   ii) Check your answer with the answers given at the end of this Unit.

   …………………………………………………………………………………………………………………………………………………………………………

### 10.6.10 Optional Provisions

Library classification, being a pre-coordinate system, has a fixed citation order for the various facets in a number. Even though the order is fixed, taking into consideration the circumstances and the interests of the majority of users, there may arise occasions where this prescribed order of citation is not found satisfactory to certain users and libraries. Hence, to overcome this problem, DDC provides for optional provisions. Certain topics are given two (or more) placements. While one of these is preferred by the editors, the other options are provided to meet the requirements of some libraries. An instruction appears under both the preferred class and the options. Some classic examples are biographies and subject bibliographies where options are given to classify under either the specific subject or with the general class biographies or bibliographies. Thus, bibliography of physics can be classed either at 016 or with 530 physics. Besides biographies and bibliographies, there are other instances in DDC which are a clear indication of the acceptance of facet structure. For example, 340 Law where, the division is considered to consist of three elements (or facets) apart from the base number 34: (i) the branch of law, (ii) topics within the branch, and (iii) geographical area. DDC provides for arrangement in any of three ways, viz.,

   a) branch of law, area, topic, or

   b) area, branch of law, topic, or

   c) branch of law, topic, area.

If we take a specific title like Law of divorce in India, it goes to 34 Law, which would be the base number. Under law, it pertains to private law (branch of law) and the topic is divorce, with India as the relevant geographical area. Following are the three optional numbers for the title in question:

a) branch of law, area, topic:
b) area, branch of law, topic:

![Diagram of Dewey Decimal Classification (DDC)]

Dewey Decimal Classification (DDC)

b) area, branch of law, topic:

![Diagram of Dewey Decimal Classification (DDC)]

(Preferred treatment for India without the notation for the country.) Note the flexibility in the order of citation in the above example. Compare this with intercalation in UDC (12.4.3 in Unit 12).

10.7 EVALUATION

Any attempt at an evaluation of classification schemes necessarily must cover the purposes these schemes serve and the environment and the circumstances in which they were developed.

Melvil Dewey developed his scheme mainly because a classification scheme was needed when none existed. UDC was developed to arrange the entries of a universal bibliography on cards, while Ranganathan developed his Colon Classification to demonstrate his theory of classification. Dewey's specific purpose in developing his scheme was to give to the libraries of his days an efficient mark and park tool and he did give it.

Dewey's scheme was conceived in the 1870s and was almost wholly oriented to the literature likely to be acquired by American academic libraries (Amherst, for example) and public libraries. From such a localised origin, DDC has grown to be an international scheme.

One of the major objectives of DDC has been practicality. Dewey developed actual classifications and evolved the theory round the practical schemes. Despite its drawbacks, this method has a great deal to commend it. Dewey was aware of the theoretical shortcomings, but preferred practical usefulness to philosophic theory. This background of the scheme has to be kept in mind while evaluating DDC, as it provides a proper perspective and insight. The strengths and weaknesses of any scheme are to some extent inversely related and this is also true of DDC.

10.7.1 Order and Collocation of Classes

DDC is criticised as still reflecting the ordering of knowledge that prevailed during the period of its birth. The sequence of main classes and the collocation of other subdivisions are considered to be arbitrary and illogical.

Some of the notable and glaring examples of arbitrary order are: separation of Languages (400) from Literature (800); Social Sciences (300) from Geography and History (900) at the broadest level; separation of Political Science (320) from Public Administration (350); separation of Commerce (380) from Economics (330) and Business Management (650); Sociology (301-307) from Customs (390) and Social Problems and Services (360).

10.7.2 Improper Placement

Notable in this category are the housing of Psychology (150) as a subdivision of Philosophy (100); Sports and amusement in Fine arts (700); inclusion of Biography (920) in General Geography and History (900) - since rectified by making it optional; and inclusion of Statistics (310) in Social Sciences (300).
10.7.3 Anglo-American Bias
The scheme reflects an overwhelming Anglo-American bias in culture, language, literature, religion and elsewhere. This bias seems reasonable considering the origin. Efforts have been made to internationalise the scheme by providing the necessary options. These optional provisions in language, literature and religion are, however, not always convenient and useful. For example, if cue chooses to give local emphasis to Hindu religion and use notations 200-280 for it, the scheme has to be worked out locally, as the present sub-divisions under these numbers are not suitable for Hindu religion.

10.7.4 Citation Order
The citation order within a subject does not always result in useful collocation. For example, in Literature (800), the citation order of language, form, period, author scatters the works of the same author according to the literary form when most scholars would prefer to have them grouped together. Similarly, in Social Science (300), the failure to recognise the importance of the area facet which usually represents the particularly society being described scatters materials. This has, however, been recognised in Law (340). Because of the principle of enumeration, elements belonging to different facets cannot be combined in a single number and, as a result, only one of the several elements involved has to be chosen for building a number.

One good point about the citation order in DDC is that the scheme has shown an inclination to introduce flexibility in the order of facets, as seen above in optional provisions. Hopefully, there will be more such provisions in the future editions.

10.7.5 Notation
The DDC notation has been at once an asset and a liability. On one hand, the simplicity, ingenuity and adaptability of the notation of pure Arabic numerals gained universal acceptance and popularity for DDC. On the other hand, it has also put severe restrictions on its ability to keep pace with the changing structure of knowledge. The decimal notation of DDC has the capacity to expand ad infinitum. The notation is at most places expressive, capable of displaying the conceptual hierarchy. But, it restricts the scheme to nine places at each stage of division. This Decimal Procrustean Bed has received a great deal of criticism.

Being aware of the continuing dissatisfaction with the lengthy notation, the Forest Press requested the Decimal Classification Division of Library of Congress to take some action in this matter. This resulted in the policy of segmenting the DDC notation. Since 1967, the DDC numbers in LC catalogues and on MARC tapes appear in the form of one to three segments. The segmentation, shown by prime marks which are not part of notation itself, identified for the user the varying levels at which the notation is meaningful.

The following examples display segmentation:

```
025.4'3
338.4'76555730'942
658.809'65573
```

117.6 Unevenness and Inconsistency
The different rates of growth for different disciplines have resulted in an uneven structure in DDC with some classes like Social Sciences (300), Science (500) and Technology (600) having become overcrowded.

The superimposition of the principle of synthesis on an otherwise enumerative classification has resulted in inconsistent treatment and consequently unpredictability of the structure. The scheme abounds in examples, of inconsistency. Thus,

```
312.2 Statistics on deaths (mortality)
312.22 Maternal deaths in childbirth
312.23 Infant deaths
```

Add "Areas" notation 1-9 from Table 2 to base number 312.23

This instruction is not there at 312.22
Consequently, Maternal death statistics pertaining to India would get the number 312.220 954, while Infant deaths in India would get 312.235 4.

10.7.7 Reclassification Due to Revision
Revision and relocation in DDC are rather conservative in comparison with UDC and CC. Still there are users who complain about the alterations, which are made. The editorial body is faced with difficult choices. Alterations invite the indignation of users.

Without revision, DDC will deviate more and more from the current structure of knowledge. DDC seems to steer fairly well the difficult course between change and stability.

10.7.8 Durability of DDC
The main reasons for DDC's popularity and widespread use are its inherent qualities and also historical and administrative factors. Apart from the inherent qualities (which have been discussed at some length elsewhere in this Unit), the timing and organisational support and its use in international bibliographic records including MARC tapes are other factors contributing to DDC’s popularity and durability.

10.8 SUMMARY
As we have seen in the evolution of DDC, innovative ideas like relative location, decimal notation, relative index and detailed classification contributed to the success of DDC. Even though the scheme is not based on any explicit theory, the principle of aspect classification and hierarchical structure have been established. Despite its enumerative structure, the scheme has incorporated synthetic devices wherever possible. Practical usefulness overrides any philosophic principle. Besides, the sustained programme of revision and efficient Organisational support has ensured the continued widespread use of DDC. Its drawbacks apart, DDC has many secondary and equally important features, which have made it very popular and successful.

DDC 19th ed., brought out in 1979, continued the development in the previous three editions. DDC, being an enumerative classification, divides the Universe of Knowledge into ten main classes, which are further divided into a hundred divisions, each one being further divided resulting in about a thousand sections. The process of division is continued till the desired level of specificity is reached. DDC schedules form the core of the scheme containing subject classification. The seven tables list repetitive and commonly applicable concepts. The combination of numbers from the schedules and the tables forms the synthesis in DDC. The notations from the seven tables are not used independently. DDC also contains a number of other devices like add to and optional provisions which make it versatile in practice. Its notation is simple and often mnemonic. Until recently it showed ubiquitous Anglo-American bias. Of late, however, attempts have been made to make the scheme more universal through the optional provisions.

DDC's relative index helps the classifier find a given topic in the schedules. More importantly, it brings at one place all the scattered aspects of a subject under the subject term.

With many new synthetic devices incorporated, DDC 19th ed has consolidated the position of DDC in the field of classification.

10.9 ANSWERS TO SELF CHECK EXERCISES
1) The extreme popularity and widespread use of DDC were due to many factors. Among other factors, the four innovative features that Dewey introduced in his scheme were chiefly responsible for DDC's phenomenal success. They are (i) Relative location; (ii) Decimal notation; (iii) Detailed specification; and (iv) Relative index.
3) The basis of the outline of the main classes of DDC is said to be Bacon's Chart of learning. Dewey acknowledged his debt to W.T. Harris for his classification scheme with which DDC bears obvious resemblance. WT. Hams, in turn, is said to have borrowed Bacon's outline and inverted the same for his classification scheme.
4) The main principles of Dewey's classification are (i) Classification by discipline; (ii) Hierarchical structure; and (iii) Practicality. Dewey did not make any explicit statement on the philosophical principles. However, he claimed that "everywhere, filosofic theory and accuracy have yielded to practical usefulness".

5) The sustained programme of revision based on user surveys has contributed greatly to the durability of DDC. The forms and methods of revision are (i) expansion; (ii) reduction; (iii) relocation; and (iv) bringing out entirely new classifications for certain disciplines in the form of phoenix schedules.

6) Phoenix schedules are a form of revision adopted by DDC since the publication of the sixteenth edition to resolve the conflict between change and stability. Certain schedules, which are out of date and require drastic changes, are replaced with entirely new classifications. The earlier schedules are destroyed and new schedules are fully recast with their arrangement remoulded. The new schedules arising out of the ashes of the destroyed old schedules are called Phoenix schedules.

7) The digit 0 is normally used for general works on the main classes or their subdivisions. For example, in class 500, the digit 0 in the second position is used for designating general works on 5 Pure sciences. Similarly, in class 530, 0 stands for general works on class 53 Physics.

8) Every DDC class number has at least three digits in pursuance of its principle of three-digit minimum. For example, Pure Sciences 500, Technology 600, etc., have only one substantive digit in them, the initial digit. The two zeroes in these numbers are just fillers to make them three-digit numbers.

9) The seven tables in DDC are
   Table 1 : Standard Subdivisions
   Table 2 : Areas
   Table 3 : Subdivisions of Individual Literatures
   Table 4 : Subdivisions of Individual Languages
   Table 5 : Racial, Ethnic, National Groups
   Table 6 : Languages
   Table 7 : Persons

10) As a result of classification by discipline, related materials are scattered throughout the schedules. These scattered related materials are brought together under one heading in the Relative Index. For example, Chemistry of copper, Chemical technology of copper, Metallurgy of copper, etc., are all scattered in the scheme, as these subjects are classed with Chemistry (540), Chemical technology (660) and Metallurgy (669) respectively. DDC's relative index, however, brings these various aspects of copper at one place under the class term Copper. Thus, the Relative Index is said to supplement the classification in the schedules.

11) Add to is one of the synthetic devices in DDC. This device has the potential to enhance the capability of DDC to provide for detailed classification. This add to instruction under a class number provides an opportunity to expand a given number or series of numbers according to the subdivisions of another number. This device also adds to the mnemonic quality of the DDC notation.

10.10 KEY WORDS

Aspect Classification : A classification that classes a subject according to its aspects, e.g., the mining of coal under mining and the chemistry of coal under chemistry.

Discipline : An area of study, a branch of instruction.

Enumerative Classification : A classification, which attempts systematic listing or enumeration of all subjects in a gigantic classificatory map.

Hierarchical Structure : A classificatory structure that displays a hierarchy of classes in which at any level a class is subordinate to the class above it and
super ordinate to the class below it. At any level in the hierarchy, the classes derived on the basis of a common characteristic are mutually exclusive.

**Integrity of Numbers**: The principle of fixing the number in a scheme of classification once for all, taking them as permanently representing the concepts to which they were originally assigned.

**Interfile**: Filing an item at a point in a sequence where it belongs according to the classification.

**Open Access**: Open shelves to which users have direct access for browsing.

**Phoenix Schedule**: A schedule newly constructed at a place where one existed earlier and was destroyed. Phoenix was the mythological bird that burnt itself and then rose from its own ashes.

**Pre-coordinate System**: A system that coordinates or combines terms to form a subject heading or facets to form a number before hand in anticipation of demand. All classification schemes are, therefore, pre coordinate systems.

**Practicality**: Usefulness. Utility as against logicality.

**Procrustean Bed**: (From Greek mythology) Tendency to foster uniformity.

**Relative Index**: An index that brings all related terms (aspects) at one place under a class or generic term.

**Shelf Mark**: A mark borne by a book that denoted its exact or fixed position on a shelf.

**Specification/Specificity**: Exact representation in classification and indexing of the contents of a book/document usually through synthesis or coordination.

### 10.11 REFERENCES AND FURTHER READING


