

Chapter 15

Decimal Classification

INTRODUCTION

Of modern library classification schemes, the *Dewey Decimal Classification (DDC)*¹ is both the oldest and the most widely used in the United States. It also has a substantial following abroad. Such widespread use is a tribute to Melvil[le Louis Kossuth] Dewey, whose original plan was adaptable enough to incorporate new subjects as they emerged and flexible enough to withstand the changes imposed by the passage of time. Dewey was born on December 10, 1851, and graduated from Amherst College in 1874, where he became assistant college librarian. He actually began developing the first draft of his system for arranging books while working as a student assistant in the college library in 1873. He soon became a leader in American librarianship, helping to found both the American Library Association (ALA) and the first American library school at Columbia University. Being a man of many interests, he was also an advocate of spelling reform. He shortened his forename to “Melvil,” dropped his two middle names, and even attempted to change the spelling of his surname to “Dui.” Throughout his career he promoted librarianship by his teaching, writing, and speaking. In recognizing and acting upon the need to systematize library collections for effective use, he knew of various previous attempts, but found them inadequate.²

Dewey never claimed to have originated decimals for classification notation, but earlier systems used them merely as shelf location devices with no significant relation to the subject matter. What Dewey did claim as original, and with some justification, was his “relativ [relative] index,” compiled as a key to the “diverse material” included in his tables. His most significant contribution was perhaps the use of decimals for hierarchical divisions. Combined with the digits 0 to 9, decimals provide a pure notation that can be subdivided indefinitely.

The first edition of Dewey’s scheme, prepared for the Amherst College Library, was issued anonymously in 1876 under the title *A Classification and Subject Index for Cataloguing and Arranging the Books and Pamphlets of a Library*. It included schedules to 1,000 divisions numbered 000–999, together with a relative index and prefatory matter—a total of 44 pages. The second, “revised and greatly enlarged” edition was published under Dewey’s name in 1885. Since that time 20 more full editions and 14 abridgments have appeared. The fourteenth edition, published in 1942, remained the standard edition for many years because an experimental index to the fifteenth edition, published in 1951, was unsuccessful. In 1958 the sixteenth edition appeared with many changes and additions, including a complete revision of sections 546–47, “Inorganic and Organic Chemistry.” Since that time each successive edition has carried, besides other, less sweeping changes, totally new developments of one or more targeted portions of the system. The present twenty-second edition (*DDC22*) was published in 2003; the associated fourteenth abridged edition was published in 2004.

DDC notations are assigned the tag 082 in *MARC 21* (the current MACHine-Readable Cataloging format used by Canada, Great Britain, and the United States) when they have been created for a particular item by the Library of Congress (LC) or other national cataloging agency. A *DDC* notation created by a local library participating in a network is placed in MARC field 092. *DDC* complete call numbers are also placed in field 092, regardless of who assigned the *DDC* notation to the item involved.

Closely related to *DDC* is the *Universal Decimal Classification (UDC)*, which was based originally on *DDC*. It is discussed briefly at the end of this chapter.

BASIC CONCEPTS

The system arranges all knowledge as represented by library materials into ten broad subject classes numbered from 000 to 900. Using Arabic numerals for symbols, it is flexible to the degree that numbers can be expanded in linear fashion to cover special aspects of general subjects. Theoretically, expansions may continue indefinitely. The more specific the work being classified, the longer the number combination tends to grow. LC records have been known to carry suggested Dewey numbers containing 21 digits, i.e., 18 decimal places. Such long numbers, however accurate, are unwieldy; it is hard to crowd them onto book spines and audio-visual containers, and dangers of miscopying and mis-shelving are multiplied. For these and related reasons many larger libraries have turned from *DDC* to some other system, such as *Library of Congress Classification (LCC)*, which has a more economical notation.

Nevertheless, the *DDC* system has many advantages. Its content is compact, consisting in *DDC22* of a volume for introductory matter, the manual, auxiliary tables, and lists of relocations, discontinuations and reused numbers; two volumes for schedule summaries and schedule development; and a fourth volume for the index. It incorporates many mnemonic devices that can be transferred from one class to another (e.g., “-03” at the end of a classification number of any length often indicates a dictionary of the subject at hand). The classifier, once familiar with the system, can apply it to incoming materials quite rapidly. It provides a limited number of optional alternative locations and allows for great detail of specification. Patrons are likely to be familiar with it, because it is the system most frequently used in school and public libraries. Furthermore, it arranges subjects from the general to the specific in a logical order, which often can be traced by analogy through more than one class. It is philosophical in conception, being based on a systematic outline of knowledge that allows for subjects not yet known. Even so, the overall arrangement is not preemptively theoretical or logical. Dewey’s intent was to provide a practical system for classifying books. This primary application to the books generally found in American libraries remains one of its notable limitations, although efforts have been made in later editions to rectify that bias.

A basic premise of the Dewey approach is that there is no one class for any given subject. The primary arrangement is by discipline. Any specific topic may appear in any number of disciplines. Various aspects of such a topic are usually brought together in the relative index. For example, a work on “families” may be classified in one of several places depending on its emphasis, as can be seen in the table below. Besides the aspects shown there, other material on families may be found in still different *DDC* numbers. Use of the relative index would lead the classifier to some of them.

Some *DDC* Class Numbers Pertaining to the Family

173	Ethics of family relationships
241.63	Christian family ethics
296.4	Jewish religious family rites, celebrations, services
306.8	Marriage and family
362.82	Families with specific problems
363.96	Family planning
392.36	Dwelling places [including those for families]
616.89156	Family psychotherapy
796	Sports for families
929.2	Family histories

The basic concepts of the system are covered in two places in *DDC22*: the introduction and the manual. The introduction gives detailed explanations of the schedules and tables and detailed instructions in classifying and building numbers with *DDC*. The manual is devoted to a discussion of the tables and schedules by number, pointing out areas of difficulty and explaining what should or should not be included in certain numbers.

In addition to the manual in *DDC22*, two outside sources provide guidance: *Dewey Decimal Classification: Principles and Application*, by Lois Mai Chan and Joan S. Mitchell³; and *Dewey Decimal Classification, 22nd Edition: A Study Manual and Number Building Guide*, by Mona L. Scott.⁴

SCHEDULE FORMAT

Summaries

At the beginning of volume 2, *DDC22* provides three summaries, showing successively the 10 main classes, the 100 divisions, and the 1,000 sections of the basic scheme. Each class consists of a group of related disciplines.

Summary of the 10 Main *DDC* Classes

000	Computer science, information & general works
100	Philosophy & psychology
200	Religion
300	Social sciences
400	Language
500	Science
600	Technology
700	Arts & recreation
800	Literature
900	History & geography

Each main class is separated into 10 divisions, although a few of these, as well as some further subdivisions, may seem to be rather artificially located within the class. The hundred divisions are shown in the "Second Summary," e.g.,

Summary of the Divisions of a Typical *DDC* Class

600	Technology
610	Medicine & health
620	Engineering
630	Agriculture
640	Home & family management
650	Management & public relations
660	Chemical engineering
670	Manufacturing
680	Manufacture for specific uses
690	Building & construction

Each division is subdivided into 10 sections. Again some of these may seem artificially located. The one thousand sections are shown in the “Third Summary,” e.g.,

Summary of the Sections of a Typical *DDC* Division

- 610 Medicine & health
- 611 Human anatomy, cytology & histology
- 612 Human physiology
- 613 Personal health & safety
- 614 Incidence & prevention of disease
- 615 Pharmacology & therapeutics
- 616 Diseases
- 617 Surgery & related medical specialties
- 618 Gynecology, obstetrics, pediatrics & geriatrics
- 619 [Unassigned]

Volume 2 presents in detail the subjects placed in 000 through 599. Fully detailed schedules for subjects placed in 600 through 999 are in volume 3. In the full schedules, each of the 1,000 numbers that has subdivisions extending over more than two pages gives a summary of the “tens” place past the decimal point, e.g.,

612 Human physiology

SUMMARY

- 612.001–.009 Standard subdivisions
- .01–.04 [Biophysics, biochemistry, control processes, tissue and organ culture, physiology of specific activities]
 - .1 Blood and circulation
 - .2 Respiration
 - .3 Digestion
 - .4 Hematopoietic, lymphatic, glandular, urinary systems
 - .6 Reproduction, development, maturation
 - .7 Musculoskeletal system, integument
 - .8 Nervous system Sensory functions
 - .9 Regional physiology

At a few places within the schedules, multilevel summaries are provided. An example of this can be found at “610 Medicine & health.”

Entries in Schedules

In the full schedules the 1,000 sections are listed separately, followed in detail by any subdivisions they may have. There are often asymmetrics attesting to the fact that the phenomena of the world cannot always be subdivided and re-subdivided into groups of 10:

Extended Decimal Subdivision of a *DDC* Topic

- 612 Human physiology
 - 612.1 Blood and circulation
 - 612.11 Blood
 - 612.12 Blood chemistry
 - 612.13 Blood vessels and vascular circulation
 - 612.14 Blood pressure

612.17	Heart
612.18	Vasomotors

Successive lengthening of the base number by one (occasionally two or three) digit(s) achieves step-wise division. This pyramidal structure means that, in subject relationships, what is true of the whole is true of the parts. For instance, the medical sciences are a branch of technology; physiology is a medical science, etc.

A Typical DDC Hierarchical Sequence

600	Technology
610	Medicine & health
612	Human physiology
612.1	Blood and circulation
612.11	Blood
612.112	Leukocytes (White corpuscles)
612.112 7	Counts and counting

As the notation expands beyond the decimal point, *DDC* editors introduce a space after every third number. The spaces are inserted merely to facilitate reading the closely listed digits. On library materials and bibliographic records they should be omitted, so that the number will occupy no more space than is absolutely necessary. The final number in the example above would be written “612.1127” in a bibliographic record. The schedules rarely display numbers with more than four decimal places, although the relative index sometimes expands numbers to eight or even nine decimals. In the index we find “Radiation injuries — animals — veterinary medicine 636.089 698 97.” Yet the schedules proper expand “636 — Animal husbandry” only as far as “636.089 — Veterinary sciences Veterinary medicine.” Instructions at 636.089 in the schedules allow the building of the longer number found in the index. The concept of building numbers is explained later in this chapter.

Certain places in the schedules where fully symmetrical expansion cannot be maintained are given *centered entries*, which represent concepts for which there is no specific number in the notational hierarchy and which, therefore, cover an abbreviated span of numbers. These appear with centered lines immediately above them and with the symbol “>” at their left margins. Centered entries are always followed by a note that tells where to class comprehensive works that cover the subject represented by the centered entry, e.g.:

A Typical DDC Centered Entry

>	439.6–439.8	Specific North Germanic languages
		Class comprehensive works in 439.5

Other useful formatting devices are the section numbers and running titles at the top of each page of volumes 2 and 3 (the schedules), the use of boldface and light-face type in various sizes, lefthand marginal indentions to indicate hierarchical structure, and the use of square brackets for numbers from which a topic has recently been shifted (or “relocated”).

Notes

Perhaps the most helpful sources of information for the *DDC* classifier are the notes. There are several major kinds of notes in the twenty-second edition: notes that tell what is found at a classification, notes that tell what is found at other classifications, “including” notes (i.e., notes that identify topics

in “standing room”), notes that explain changes in schedules and tables, notes that instruct the classifier in number building, notes that prescribe citation and preference order, and notes that explain options.

Notes found in the first two groups have what is called “hierarchical force.” This means that they are applicable to all the subdivisions under the number that has the note, as well as to the number with the note.

Notes that tell what is found at a classification

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

Notes that tell what is found at other classifications

These notes begin with the words *class*, *for*, or *see also*. For example, at “070.9 Historical and persons treatment of journalism and newspapers” is found the note, “Class historical treatment of specific topics of journalism in 070.41-070.49.” At “338.5 General production economics” is the note, “For organization of production, see 338.6.”

Including notes (notes that identify topics in “standing room”)

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

Notes explaining changes in schedules and tables

These notes tell a user of the schedules that there have been changes at a particular number since the last edition of *DDC*. There may have been revisions of contents covered, a discontinuation of

coverage either for a whole number or for a part of its contents, or a relocation of all or part of the contents.

Notes that instruct the classifier in number building

Number-building instructions provide ways to gain greater depth of analysis at a particular classification. Number building is discussed in detail below.

Notes that prescribe citation and preference order

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

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

Notes that explain options

Such notes are usually given in parentheses and may be of benefit in providing alternative methods for handling certain situations. International users find that options for religions, languages, and literatures allow them to give preferred treatment for local needs. One option often followed is:

016 Bibliographies and catalogs of works on specific subjects
 or in specific disciplines
 . . .
 (Option: Class with the specific discipline or subject, plus notation 016 from Table 1,
 e.g., bibliographies of medicine 610.16)

COMPLETELY REVISED SCHEDULES

In *DDC21* there were three significant areas that underwent complete remodeling: 350–354 — Public administration, 370 — Education, and 560–590 — Life sciences. For two of these areas, public administration and life sciences, facets and facet indicators became a basic part of the design. Faceting in this form was introduced in the music schedule that was completely revised for the twentieth edition. It allows building of numbers through use of the indicators 0 and 1. Faceting makes possible the identification of meaningful components in a number both in the classification process and in the retrieval process.

In addition to those complete revisions, *DDC21* began a two-edition plan to reduce Christian bias in 200 Religion. *DDC22* completed the relocations and expansions that were planned for 200 Religion.

DDC22 has no “completely revised schedules” but nonetheless has some major changes. Dealt with in the twenty-second edition are updated developments and terminology for social groups and institutions in 305-306; improvements to the 340 schedule that relates to law of nations, human rights, and intergovernmental organizations; substantial updating of 510 Mathematics and 610 Medicine and health; movement of numbers for facilities for travelers from 647.94 into the 910-919 area with other travel-related concepts; and updating of numerous geographic areas in Table 2. Perhaps the most striking change in *DDC22* is the removal of Table 7 (Groups of Persons), which was largely a duplication of the broad outline of the schedules themselves. Classifiers are now instructed to use notations available in the schedules and in —08 from Table 1 in place of the former Table 7.

NUMBER BUILDING

A premise in working with *DDC* is that all possible numbers are not specifically printed in the schedules, but more precise numbers than those printed can be built or synthesized using tables or other parts of the schedules.

Adding from Auxiliary Tables

Auxiliary tables 1 through 6, found in volume 1 of *DDC22*, give the classifier one way to expand existing numbers in the schedules. Each number in these tables is preceded by a dash to show that it cannot stand alone as a classification number. The dash should be omitted when the number is attached to a class notation.

Table 1. Standard Subdivisions

As was noted under the “General Principles of Classifying” section of chapter 14, all shelf classifications provide a dual approach. Some items are grouped on the basis of their subject content, while others are placed according to their form or genre. The standard subdivisions supplied in auxiliary Table 1 derive from what was called in earlier editions a table of “form divisions.” The present-day “standard subdivisions” include examples other than form. Some actually do treat form (e.g., dictionaries, encyclopedias, periodicals, etc.). Others represent “modes of treatment,” covering theoretical or historical aspects of the subject, such as philosophy and theory, history, etc. The following illustrates some of the categories to be found in Table 1.

- 01 **Philosophy and theory.** An exposition of any subject treated from the theoretical point of view.
 Example: 701 Philosophy of the Arts
- 03 **Dictionaries, encyclopedias, concordances.**
 Example: 720.3 Dictionary of Architecture
- 05 **Serial publications.** Used for publications in which the subject is treated in articles, papers, etc.
 Example: 720.5 Architectural Record
- 08 **History and description with respect to kinds of persons.**
 Example: 720.8 Architectural Adaptations for
 People with Specific Needs
- 09 **Historical, geographic, persons treatment.**
 Example: 720.9 Fletcher’s History of Architecture

Most of the standard subdivisions are further subdivided in Table 1. For example, under “-01 Philosophy and theory” the following subtopics are listed:

- 011 Systems
- 012 Classification
- 014 Language and communication
- 015 Scientific principles
- 019 Psychological principles

The -09 standard subdivision can be geographically divided, through the addition of area digits from Table 2, e.g., “720.973 History of Architecture in the United States.” This is explained in detail below in the section titled “Table 2. Geographic Areas, Historical Periods, Persons.”

Unless specific instructions indicate otherwise, standard subdivisions may be used with any number if such application is meaningful. One specific instruction not to add standard subdivisions is found only in the introduction in volume 1 and is often overlooked. When a work does not “approximate the whole of the subject of the number,” the standard subdivision usually should not be added. This was mentioned above in the discussion of notes that identify topics in “standing room.” If, for example, a resource is about research on corporate name headings, it should be given the number “025.322” for “Choice of entry and form of heading.” Because the resource is not about research on forms of all kinds of headings, and because there is no specific number for corporate headings, the standard subdivision “-072” for research should not be attached to the number.

Although in the table each number is preceded by a single zero, e.g., “-03 Dictionaries, etc.,” it is sometimes necessary in the schedules to apply a double or triple zero to introduce the subdivision. This happens when single zero subdivisions are already appropriated in the schedules for special purposes. The instructions that cover such situations are explicit and should be followed carefully. A few examples will illustrate certain basic principles:

a) **Standard subdivisions printed in the schedules**

In some parts of the schedules a concept that is ordinarily expressed as a standard subdivision is printed with its own number. For example, “805 Serial publications” is printed in the schedule following “800 Literature . . .” Therefore, this is the number used for a serial about literature, not 800.5 or 800.05. Likewise, “501 Philosophy and theory” is printed after “500 Natural sciences and mathematics.” None of the standard subdivision breakdown for -01 found in Table 1 is printed after “501,” but one can use this breakdown at this number if appropriate. Thus, a work on the concept of theoretical classification in the natural sciences would be classed “501.2.”

b) **Standard subdivisions not printed and no instructions given**

The most common situation is that in which standard subdivisions are not printed and no instructions are given. In such cases a single-0 introduces the standard subdivision. For example, the schedules give the number “371.4” for student guidance and counseling. A work on the philosophy and theory of student guidance and counseling would be given the class number “371.401.”

c) **0-divisions used for a specific purpose; standard subdivision to be introduced by a double-0**

An example of the double-0 appears at “271 Religious congregations and orders in church history.” Single-0 subdivisions are used for specific kinds of religious congregations, e.g., “271.01 Contemplative religious orders,” “271.03 Teaching orders,” “271.04 Preaching orders,” etc. Here the instruction is to use 271.001–271.009 for standard subdivisions. Therefore, an encyclopedia of religious congregations and orders in general is classed in 271.003.

d) **00-divisions used for special purposes; standard subdivisions to be introduced by a triple-0**

An example of the triple-0 appears at “230 Christianity Christian theology.” Single-0 numbers 230.1–230.9 are reserved for “Doctrines of specific denominations and sects. Double-0 numbers 230.01–230.09 are reserved for “Standard subdivisions of Christian theology.” Therefore 230.001–230.009 (triple-0) are used for “Standard subdivisions of Christianity.” An encyclopedia of Christianity would be classed as 230.003.

Table 2. Geographic Areas, Historical Periods, Persons

When a given heading can be subdivided geographically and the library has many books dealing with that subject, it is recommended that the classifier use Table 2 (the area table), which allows one to expand the number systematically by region or site. It is by far the bulkiest of the six auxiliary tables accompanying the DDC schedules. Its general arrangement is as follows:

- 01–05 Historical periods
- 1 Areas, regions, places in general; oceans and seas
- 2 Persons (Regardless of area, region, place)
- 3 The ancient world
- 4 Europe Western Europe
- 5 Asia Orient Far East
- 6 Africa
- 7 North America
- 8 South America
- 9 Other parts of world and extraterrestrial worlds Pacific Ocean islands

Area –1 is used for the treatment of any subject geographically but not limited by continent, country, or locality. It allows diverse elements that have natural ties to regions or groups (e.g., frigid zones, temperate zones, land forms, or types of vegetation) to be brought together under certain subjects. Area –2 permits subdivision by biography, diaries, reminiscences, correspondence, etc., of persons associated with any subject for which the schedule instructions say to add the “areas” notation directly instead of adding “standard subdivision” notation –092 from Table 1. Area –3 offers specific subdivisions for ancient countries and areas up to the fall of the Roman Empire. Area notations –4 through –9 are for specific continents and modern countries. For example, area number “–4 Europe” has the following summary subtopics:

- 41 British Isles
- 42 England and Wales
- 43 Central Europe Germany
- 44 France and Monaco
- 45 Italian Peninsula and adjacent islands Italy
- 46 Iberian Peninsula and adjacent islands Spain
- 47 Eastern Europe Russia
- 48 Scandinavia
- 49 Other parts of Europe

The area notations –41 and –42 were extensively revised in the nineteenth edition to reflect a thorough reorganization of British local administration. The area concepts of “British Isles,” “United Kingdom,” and “Great Britain” were at the same time relocated from area –42 to area –41. Area notation –47 was extensively revised in the twenty-first edition in order to make a more logical organization for the countries of the former Soviet Union. The area notations for several areas were revised and expanded for the twenty-second edition, e.g., —682–687 Republic of South Africa, and —74 Quebec.

Area notations may be added directly to schedule numbers where so instructed. For example, a general treatise on higher education in Dundee, Scotland, is classified in 378 in the Dewey Decimal Classification. The schedule at 378.4-.9 instructs “Add to base number 378 notation 4-9 from Table 2.” In Table 2 one finds “-412 7” as the number for “Dundee City” (under —412 Northeastern Scotland). This number is therefore applied to 378, giving 378.4127, as the following analysis shows:

378	Higher education
378.4	Europe
378.41	British Isles
378.412	Northeastern Scotland
378.4127	Dundee City

Where specific instructions (as in 378.4-.9) are not given for geographical treatment in the schedules, the classifier can apply the Table 1 standard subdivision “-09 Historical, geographic persons treatment” to any number that lends itself to that approach, unless localized instructions mandate a double- or triple-0 in place of the single-0. For example, the specific DDC number for savings banks is 332.21. To classify a work on savings banks in London, the schedule gives no specific direction to use Table 2, nor does it give any direction for specific subdivisions. So the standard subdivision -09 may be used directly. In Table 1 a note under “-093-099 Treatment by specific continents, countries, localities; extra-terrestrial worlds” says to “Add to base number -09 notation 3-9 from Table 2.” So works on savings banks in London are classified in 332.2109421. The number may be analyzed to show:

332.21	Savings banks
332.2109	Standard subdivision for historical and geographical treatment
332.21094	In Europe
332.210942	In England and Wales
332.2109421	In Greater London

Although these examples result in long numbers, they are quite simple to construct.

Table 3. Individual Literatures and the Arts

Table 3, “Subdivisions for the Arts, for Individual Literatures, for Specific Literary Forms,” is actually three tables: Table 3A, “Subdivisions for Works by or about Individual Authors,” Table 3B, “Subdivisions for Works by or about More than One Author,” and Table 3C, “Notation to be Added Where Instructed in Table 3B, 700.4, 791.4, 808-809.” The titles of these tables are descriptive of their uses. They are never used alone, but are used following specific instructions. Numbers “-1-8 Specific forms” in Tables 3A and 3B develop and expand the summary form numbers that appear in the full schedules under 810, 820, 830, 840, 850, and 860. These mnemonic form divisions for kinds of literature are:

—1	Poetry	(e.g., 831	German poetry)
—2	Drama	(e.g., 839.12	Yiddish drama)
—3	Fiction	(e.g., 839.313	Dutch fiction)
—4	Essays	(e.g., 869.4	Portuguese essays)
—5	Speeches	(e.g., 891.865	Czech speeches)
—6	Letters	(e.g., 895.16	Chinese letters)
—7	Humor and satire	(e.g., 896.3927	Swahili humor & satire)
		[—7 does not appear in Table 3-A and is not used for individual authors.]	
—8	Miscellaneous writings	(e.g., 899.2118	Tagalog (Filipino) miscellaneous writings)

Flow charts for building literature numbers can be found at the Table 3 instructions in the Manual in volume 1 of *DDC22*. These are of great assistance in following the massive amount of instructions found in the literature schedules and with Table 3.

Table 4. Individual Languages

Table 4, “Subdivisions of Individual Languages and Language Families,” is used with base numbers for individual languages, as explained under 420–490. In a fashion similar to that of Table 3 it provides mnemonic form divisions for languages, e.g.:

- 1 Writing systems, phonology, phonetics of the standard form of the language
(e.g., 431 Writing systems and phonology of standard German)
- 2 Etymology of the standard form of the language
(e.g., 439.12 Etymology of the standard form of Yiddish)
- 3 Dictionaries of the standard form of the language.
(e.g., 439.313 Dictionaries of the standard form of Dutch)
- etc.

Table 5. Ethnic and National Groups

Table 5, “Ethnic and National Groups,” is used according to specific instructions at certain places in the schedules or in other tables, or through the interposition of “–089 [History and description with respect to] Ethnic and national groups” from Table 1. These applications are exactly parallel to the use of Table 2, which is used either on direct instructions in the schedule or on interposition of “–09 Historical, geographic, persons treatment” from Table 1. The Table 5 summary includes:

- 05 Persons of mixed ancestry with ethnic origins from more than one continent
- 09 Europeans and people of European descent
- 1 North Americans
- 2 British, English, Anglo-Saxons
- 3 Germanic peoples
- 4 Modern Latin peoples
- etc.

Table 6. Languages

Table 6, “Languages,” is a basic mnemonic table used to indicate the particular language of a work or the language that is the subject matter of a work. It is used as instructed in the schedules or other tables. The summary includes:

- 1 Indo-European languages
- 2 English and Old English (Anglo-Saxon)
- 3 Germanic languages
- 4 Romance languages
- etc.

To illustrate, in order to classify a Bible in French, one would start with the entry given in both index and schedules, “220.5 Modern versions and translations [of the Bible].” For “220.53–59 Versions in other languages [than English]” the schedule direction says, “Add to base number 220.5 notation

3–9 from Table 6.” The notation for French in Table 6 is –41. The resulting whole number for a modern French Bible may be analyzed as follows:

220	The Bible
220.5	Modern versions and translations
220.54	In the Romance languages
220.541	In modern French

Adding from Other Parts of the Schedules

There are a number of places in the schedules where the classifier is instructed to find a number elsewhere in the schedules and to add it whole to the number at hand, as demonstrated by the following example:

750	Painting and paintings
...	
758	Other subjects [other than those listed for 751 through 757]
...	
758.9	Other [other than the ones listed for 758.1 through 758.7] Add to base number 758.9 notation 001–999, e.g., paintings of scientific subjects 758.95, of historical events 758.99 . . .

If one wanted to classify paintings of library buildings, the number for the architecture of library buildings, 727.8, would be attached to 758.9, resulting in 758.97278.

In many other places the classifier is instructed to take a part of another number and add to a base number given in the instruction. The following example illustrates this kind of instruction:

398.369	Animals [as subjects of folklore] Add to base number 398.369 the numbers following 59 in 592-599, e.g., rabbits 398.369932
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At 599.65 we find:

599	Mammalia (Mammals)
.6	Ungulates
.65	Cervidae (Deer)

So, for a work on deer as the subject of folklore, the notation would be 398.369965.

More complicated instructions may give more than one directive for building a number. For example:

616.994	Cancers
616.99411–.99415	Cancers of cardiovascular organs Add to base number 616.9941 the numbers following 611.1 in 611.11–611.15, e.g., cancer of heart 616.99412; then add further as instructed under 618.1–618.8, e.g., therapy for cancer of heart 616.9941206

At 611.1 is found:

- .1 Cardiovascular organs
- .11 Pericardium
- .12 Heart
- .13 Arteries
- .14 Veins
- .15 Capillaries

At 618.1–618.8 is a table of digits to be added where instructed. Within this table one finds:

- 01–03 Microbiology, special topics, rehabilitation,
- 04 Special classes of diseases
- 05 Preventive measures and surgery
- 052 Preventive measures
- 059 Surgery
- 06 Therapy
- 07 Pathology

So a work on surgery for cancer of the heart would be given the classification number 616.99412059, that is, 616.9941 (base number) followed by 2 (for heart) followed by 059 (for surgery). “Add tables” of this type are found in many places in the schedules and must be used only as instructed.

When a single work treats multiple aspects of a subject, such as age, gender, and physical characteristics, the classifier must be careful to observe citation and preference order. As mentioned earlier, citation order allows a number to be built that takes into account two or more of the aspects. Instructions are given in such cases as to the order in which the aspects may be represented in the number. If a citation order is not given, then one must choose among the aspects according to instructions for preference. Sometimes one is instructed to prefer the aspect that comes first (or last) in the schedule, while at other times there may be a table of preference given. The important point to remember is to follow instructions. More detail about number building can be found in the Introduction to *DDC22* and in Chan and Mitchell’s *Dewey Decimal Classification: Principles and Application*.⁵

THE RELATIVE INDEX

The “relative” index is so called because it is claimed to show relationships of each specific topic to one or more disciplines and to other topics. It contains terms found in the schedules and tables, and synonyms for those terms; names of countries, states, provinces, major cities, and important geographic features; and some names of persons. It does not have phrases that contain concepts represented by standard subdivisions (e.g., “Medical education”). Many *see also* references are given (e.g., “Organizations . . . *see also* Religious organizations”). Geographic name entries usually refer the user to the appropriate area table [e.g., “Macerata (Italy : Province) T2–456 73”]. A few referrals occur to the standard subdivisions and to other auxiliary tables (e.g., “Repairs ...T1–028 8”).

The *DDC* relative index enumerates alphabetically all the main headings in the classification schedules, plus certain other specific entries not actually listed in the schedules. One such instance was discussed on page 5.

In other places index terminology varies from that found in the schedules for the same class number, although the general meanings coincide. For example, the schedule entry “612.792 1 Glands and

glandular secretions... Including perspiration” is a generalized representation of the index entry “Sebaceous glands—human physiology 612.792 1.”

The classifier should, of course, consult the index, especially in cases in which the location of the desired topic, or the precise nature of its relation to other topics, is in doubt. Yet the relative index should never become a substitute for the schedules. It is coordinated with them, but is limited for reasons of space and cannot show hierarchical progressions or topical groupings. It will guide the classifier to some, but not necessarily all, aspects of a given subject. The next important step in the classification process is to consult the schedules for verification, perspective, and possible further instructions. Only by using the two types of display together can the full potential of the scheme be realized.

BROAD AND CLOSE CLASSIFICATION

Because it offers a wide variety of techniques and nearly limitless expansions in number building, *DDC* is hospitable to all the titles that a large library might add in any subject. It also offers various ways to meet the limited needs of smaller libraries. The classifier must remember that, in general, when there are relatively few works in a given subject area, *DDC* encourages broad classification. Digits in class notations after decimal points may be cut off at any appropriate place. The present policy of the Library of Congress is to provide bibliographic records with *DDC* numbers of from one to three segments. The segments are indicated by slash marks, e.g., “940.53/18/092,” which stands for “World War II—Holocaust—Biographies.” A small library with a limited collection of materials on World War II might prefer to keep them all together under 940.53. If the library has several dozen items on the war, it might keep the ones on the Holocaust together by using 940.5318. If it maintains a separate resource collection for use by researchers, it could add the standard subdivision “–092” to distinguish the biographies. When a library decides to retain one or more of the *DDC* segments to achieve close classification at a particular point in the collection, it omits the slash marks, which were used in the LC record merely to suggest break-points. At this writing the LC Decimal Classification Division is considering simplifying its segmentation service to include only a single mark that shows the end of the abridged number (see discussion of Abridged Editions below). The reader should watch for this possible change.⁶

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

UPDATING

New editions of *DDC* have been published every few years. Between editions, updating is accomplished via publication of new and changed entries on the Dewey Web site at the first of each month.⁷ It contains corrections of errors, clarifications, updating, and expansions. Also available on the Dewey home page are other kinds of updating tools such as “Tips,” “LCSH/DDC mappings,” and “WebDewey quarterly enhancements.”⁸ A policy for “continuous revision” has been adopted by OCLC, which means that revisions are released between editions, and new editions appear as cumulations.

ABRIDGED EDITIONS

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

WEBDEWEY

WebDewey offers online searching and browsing access to the Dewey Decimal Classification. In addition, it maps DDC to Library of Congress Subject Headings (LCSH) and links from the mapped LCSH to the corresponding LCSH authority records. In the case of Abridged WebDewey, mapping is to the Sears Subject Headings. Selected Medical Subject Headings are also mapped to DDC numbers. WebDewey offers a work area where a cataloger may build a number during the process of reading the number-building instructions. Local notes can also be added that will be displayed in context so that local classification practices are appropriately available. WebDewey and Abridged WebDewey are available as add-on services to OCLC Connexion, OCLC's cataloging service.

It is considered difficult by some to learn DDC by starting with WebDewey instead of the print text, because one cannot get a sense of the "big picture" on just one screen versus being able to look at two or more pages of text at once. However, for the experienced user, WebDewey can offer advanced means of display that are found to be quite desirable. For example, searching can be done using one or multiple indexes and by using Boolean operators, proximity searches, right and left truncation, and character masking. There are browsable Keyword in Context (KWIC) indexes of the Relative Index and LCSH and browsable sequential indexes of DDC numbers. Classification and table numbers are shown in hierarchical displays that show the position in relation to broader and narrower classes. Extensive use of hyperlinks gives fast access to related records and to entries in the Manual that are cited in notes for particular numbers. Top-down navigation through DDC is possible starting with a display of the ten main classes.

A tutorial assists in introducing new users to the best approaches for using WebDewey.⁹ In addition instructions are available for obtaining access to both WebDewey and Abridged WebDewey.¹⁰

DIFFICULTIES: LONG NUMBERS AND TOPIC RELOCATIONS

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

636
 .089
 698
 97

Related to the long number difficulties are the rapid, often sweeping, topical relocations from one edition to another. Such drastic surgery is forced upon the system by its limited notational base and the swift growth and change in the world of knowledge and of publication. An article by Pat Thomas written soon after publication of *DDC20* gives pointers on adjusting to *DDC*'s expansions, reductions, relocations, and revised schedules.¹¹ While the big rush, particularly in academic libraries, to change from *DDC* to *LCC* seems to have run its course, no library can afford to ignore all efforts to keep shelf arrangement contemporary with the shifts in knowledge as reflected in the literature.

UNIVERSAL DECIMAL CLASSIFICATION (UDC)

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

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

362.1 : 658.3 : 681.31 Hospital : Personnel management : Computers

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

658.3 : 681.31 : 362.1
 681.31 : 362.1 : 658.3

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

UDC's faceted structure has its roots in *DDC*'s device for indication of place, namely, the intercalation of -09 followed by the class notation for a country or region, e.g., -0973 for the United States. *UDC* uses many of the same place notations as *DDC* but encloses them in parentheses. For example, "plant cultivation in the U.S." is 631.50973 in *DDC* but 631.5(73) in *UDC* (note that the main class notation is the same in both). In addition to the place facet *UDC* also has specific symbols

and notations for the language of a work, its physical form, nationalities and peoples, time periods, materials, persons, specific points of view, and recurring subdivisions in certain classes, all of which can be appended to basic notations either alone or in combination, as in the following example:

631.5	Plant cultivation—written in Russian
631.5(038)	—Glossary
631.5“17”	—18th century
631.5(= 97)(85)	—By American Indians in Peru

Due to this highly faceted structure and largely expressive notation the *UDC* has been used successfully in computerized information retrieval.¹³

UDC schedules were first published from 1904 to 1907 in French, followed later by full editions in English. *UDC* has since been published in whole or in part in 23 languages. It is widely used in many countries where English is the main or a co-official language (e.g., the British Isles, Canada, Australia, New Zealand, India) and in countries using other languages (e.g., Germany, Japan, Russia, Spanish-speaking countries).¹⁴

Until 1992 *UDC* was managed by the International Federation of Documentation (FID) in the Hague (Netherlands). When it became apparent in the 1980s that a more broadly based organization was needed to administer *UDC*, FID and the publishers of the Dutch, English, French, Japanese, and Spanish editions combined to found a new body, the UDC Consortium (UDCC). An early action of the UDCC was to create an international database that would be a master file. The database, called the Master Reference File (MRF), now containing more than 66,000 entries, is held at the Royal Library in the Hague and is updated once a year. An Editor-in-Chief and an Editorial Board of international membership oversee the continuous revision and expansion.¹⁵

Since 1992, UDCC has maintained the scheme by reviewing its content and initiating revisions and extensions. The results are published in *Extensions and Corrections to the UDC*.¹⁶ A two-volume, easy-to-use edition of *UDC* was published in a “complete” edition by the British Standards Institution in 2005.¹⁷ It is derived from the MRF. Supplements are issued each year, each one cumulating all previous ones so that one has only to look in two places for the latest notations. An abridged edition, containing about 4,100 entries, was published in 2003.¹⁸ “UDC Online” is an electronic version of the complete edition of *UDC* and is available by subscription. Its features are similar to features of WebDewey.¹⁹

In the United States *UDC* is used mainly in some scientific and technical libraries and by one abstracting database.²⁰ More detailed descriptions of the *UDC*, its development, and its application may be found in a number of publications.²¹

NOTES

1. Melvil Dewey, *Dewey Decimal Classification and Relative Index*, Edition 22, edited by Joan S. Mitchell, et al. (Dublin, OH: OCLC, 2003); *Abridged Dewey Decimal Classification and Relative Index*, Edition 14, edited by Joan S. Mitchell, et al. (Dublin, OH: OCLC, 2004). DDC, Dewey, Dewey Decimal Classification, and WebDewey are registered trademarks of OCLC.

2. A very short summary of Melvil Dewey’s life written by Wayne A. Wiegand is available: <http://www.oclc.org/dewey/resources/biography> (accessed 6/2/05). A longer biography is also available: Wiegand, Wayne A. *Irrepressible Reformer: A Biography of Melvil Dewey*. Chicago: American Library Association, 1996.

3. Lois Mai Chan and Joan S. Mitchell, *Dewey Decimal Classification: Principles and Applications*, 3rd ed. (Dublin, Ohio: OCLC, 2003).

4. Mona L. Scott, *Dewey Decimal Classification, 22nd Edition: A Study Manual and Number Building Guide* (Westport, Conn.: Libraries Unlimited, 2005).
5. Chan and Mitchell, *Dewey Decimal Classification*.
6. "Segmentation Marks in Dewey Numbers," available:
<http://www.oclc.org/dewey/discussions/papers/SegmentationMarks.htm>
7. "Dewey services: Updates: New and changed entries," available:
<http://www.oclc.org/dewey/updates/new>
8. "Dewey Services: Updates," available: <http://www.oclc.org/dewey/updates/default.htm>
9. "Using OCLC WebDewey: An OCLC Tutorial," available:
<http://www.oclc.org/dewey/resources/tutorial/> (accessed 6/2/05)
10. "Dewey services: Latest versions: WebDewey," available:
<http://www.oclc.org/dewey/versions/webdewey/default.htm> (accessed 6/2/05); "Dewey Services: Latest versions: Abridged WebDewey," available: <http://www.oclc.org/dewey/versions/abridgedwebdewey/default.htm> (accessed 6/2/05)
11. Pat Thomas, "Implementing DDC20," *DC&*, vol. 5, no. 1 (March 1990): 7–8.
12. Quotation of Paul Otlet's writing from W. Boyd Rayward's *The Universe of Information* (Moscow: FID, 1975) as cited in "UDC Announcements," available: <http://www.udcc.org/announcement.htm> (accessed 6/3/2005).
13. "About Universal Decimal Classification and the UDC Consortium," available:
<http://www.udcc.org/about.htm> (accessed 6/3/2005)
14. Ibid.
15. Ibid.
16. *Extensions and Corrections to the UDC* (The Hague: FID, 1951–). Annual.
17. British Standards Institution, *Universal Decimal Classification, Complete Edition* (London: BSI, 2005).
18. British Standards Institution, *Universal Decimal Classification, 2nd ed.*, abridged (London: BSI, 2003).
19. "UDC Online," available: <http://www.udcc.org/udconline.htm> (accessed 6/5/2005)
20. *Meteorological and Geostrophysical Abstracts* (Boston: American Meteorological Society, 1950–).
21. I. C. McIlwaine, *The Universal Decimal Classification: A Guide to Its Use*, (The Hague: UDC Consortium, 2000); W. Boyd Rayward, "The UDC and FID: A Historical Perspective," *Library Quarterly* 37 (July 1967): 259–278; A. C. Foskett, "The Universal Decimal Classification," in *The Subject Approach to Information*, 5th ed. (London: Library Association Publishing, 1996), pp. 281–294.

SUGGESTED READING

- Chan, Lois Mai, and Joan S. Mitchell. *Dewey Decimal Classification: Principles and Applications*. 3rd ed. Dublin, Ohio: OCLC, 2003.
- Ferguson, Bobby. *Subject Analysis: Blitz Cataloging Workbook*. Englewood, Colo.: Libraries Unlimited, 1998. Chapter 3: Dewey Decimal Classification.
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