

The Treatment of Classification Data in MARC 21: A Case Study Using the DDC

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Outline

- **MARC 21 Format for Classification Data**
 - Introduction and background
 - Selected elements and fields
- **MARC 21 Format for Authority Data: Provisions for Classification Data**
- **MARC 21 Format for Bibliographic Data: Provisions for Classification Data**

MARC 21 Format for Classification Data

MARC 21 Format for Classification Data

"The MARC 21 Format for Classification Data is designed to be a carrier for information about classification numbers and the captions associated with them that are formulated according to a specified authoritative classification scheme."

Background: DDC, ESS, and MARC

- **1984-1986 First ESS (Editorial Support System) developed by Inforonics, Inc., for use by Dewey editors**
- **ESS database format developed before work began on MARC Format for Classification**
- **1987/1988 development began on MARC Classification Format**

Background: DDC, ESS, and MARC (2)

- 1989 Dewey Decimal Classification (DDC), 20th edition, published from ESS database
- 1990 MARBI provisionally approved MARC Classification Format for use
- Library of Congress Classification implemented in MARC format

Background: DDC, ESS, and MARC (3)

- **DDC editors began planning for use of MARC Classification Format, and added some MARC fields to ESS format, especially 685 History note field**
- **The current ESS database has 685 History note fields documenting changes from DDC edition 20 to the present**

Background: DDC, ESS, and MARC (4)

- **Now OCLC is preparing a new Editorial Support System and preparing to switch from the old ESS format to the MARC 21 Format for Classification**

MARC 21 Format for Classification Data: Schedule and Table Records

Schedule record

A record in which the classification number or number span in field 153 \$a (Classification Number) is taken from a schedule.

Table record

A record in which the base number of the classification number or number span in field 153 is taken from a table.

008 - FIXED-LENGTH DATA ELEMENTS (NR): Selected elements

06 - Kind of record

07 - Type of number

08 - Classification validity

09 - Standard or optional designation

12 - Synthesized number indication

008 - FIXED-LENGTH DATA ELEMENTS: Standard or Optional

09 - Standard or optional designation

Indicates whether the classification number contained in field 153 is from the standard or optional part of the schedules or tables of the scheme identified in field 084 (Classification Scheme and Edition).

a - Standard

b - Optional

n - Not applicable

084 - CLASSIFICATION SCHEME AND EDITION (NR)

Information that identifies the classification scheme used to formulate the number caption in field 153 (Classification Number).

084 - CLASSIFICATION SCHEME AND EDITION: Indicators

First - Type of edition

0 - Full

1 - Abridged

8 - Other

Second - Undefined

- Undefined

084 - CLASSIFICATION SCHEME AND EDITION: Subfield Codes

\$a - Classification scheme code (NR)

\$b - Edition title (NR)

\$c - Edition identifier (NR)

\$d - Source edition identifier (NR)

\$e - Language code (R)

084 - CLASSIFICATION SCHEME AND EDITION: Subfield Codes (2)

\$f - Authorization (NR)

\$n - Variations (R)

\$6 - Linkage (NR) See Control Subfields

**\$8 - Field link and sequence number (R) See
Control Subfields**

084 - CLASSIFICATION SCHEME AND EDITION: Examples

- 084 0# \$a ddc \$c 22
- 084 0# \$a ddc \$c 21 \$e ita
- 084 0# \$a ddc \$c 22 \$e ger
- 084 1# \$a ddc \$c 14 \$e vie
- 084 1# \$a ddc \$c 14 \$e fre

153 - CLASSIFICATION NUMBER (NR)

Classification numbers that are constructed according to the classification scheme that is identified in field 084 (Classification Scheme and Edition).

Indicators: Undefined

153 - CLASSIFICATION NUMBER: Subfield Codes

\$a - Classification number--single number or beginning number of span (R)

\$c - Classification number--ending number of span (R)

\$h - Caption hierarchy (R)

\$j - Caption (NR)

153 - CLASSIFICATION NUMBER: Subfield Codes (2)

\$k - Summary number span caption hierarchy (R)

\$z - Table identification (NR)

\$6 - Linkage (NR) See Control Subfields

**\$8 - Field link and sequence number (R) See
Control Subfields**

**153 - CLASSIFICATION NUMBER: Example:
004 Data processing Computer science**

084 0# \$a ddc \$c 22

153 ## \$a 004 \$h Computer science, information
and general works \$h Computer science,
knowledge and systems \$j Data processing
Computer science

153 - CLASSIFICATION NUMBER: Example: T1—019 Psychological principles

084 0# \$a ddc \$c 22

**153 ## \$z 1 \$a 019 \$h Table 1. Standard
Subdivisions \$h Philosophy and theory \$j
Psychological principles**

153 - CLASSIFICATION NUMBER: Example: T2—43416 Darmstadt district (Darmstadt Regierungsbezirk)

084 0# \$a ddc \$c 22

153 ## \$z 2 \$a 43416 \$h Table 2. Geographic Areas,
Historical Periods, Persons \$k Specific continents,
countries, localities; extraterrestrial worlds \$k Modern
world; extraterrestrial worlds \$h Europe Western
Europe \$h Central Europe Germany \$k Germany \$h
Southwestern Germany \$h Hesse (Hessen) \$j Darmstadt
district (Darmstadt Regierungsbezirk)

Hierarchy for T2—43416 in WebDewey

T2--0	<u>Table 2. Geographic Areas, Historical Periods, Persons</u>
T2--3-T2--9	<u>Specific continents, countries, localities; extraterrestrial worlds</u>
T2--4-T2--9	<u>Modern world; extraterrestrial worlds</u>
T2--4	<u>Europe</u> <u>Western Europe</u>
T2--43	<u>Central Europe</u> <u>Germany</u>
T2--431-T2--435	<u>Germany</u>
T2--434	<u>Southwestern Germany</u>
T2--4341	<u>Hesse (Hessen)</u>
T2--43416	Darmstadt district (Darmstadt Regierungsbezirk)

153 - CLASSIFICATION NUMBER:

Example: T2—4341618 Main-Taunus-Kreis

084 0# \$a ddc \$c 22 \$e ger

153 ## \$z 2 \$a 4341618 \$h **Hilfstafel 2. Geografische Gebiete, Zeitabschnitte, Personen \$k Einzelne Kontinente, Länder, Ortschaften; auBerirdische Welten \$k Heutige Welt; auBerirdische Welten \$h Europa Westeuropa \$h Mitteleuropa Deutschland \$k Deutschland \$h Südwestdeutschland \$h Hessen \$h Regierungsbezirk Darmstadt \$h Hochtaunuskreis, Rheingau-Taunus-Kreis, Main-Taunus-Kreis \$j Main-Taunus-Kreis**

Hierarchy for T2—4341618 in MelvilClass

<u>T2</u>	<u>Hilfstafel 2. Geografische Gebiete, Zeitabschnitte, Personen</u>
<u>T2—3-T2—9</u>	<u>Einzelne Kontinente, Länder, Ortschaften; außerirdische Welten</u>
<u>T2—4-T2—9</u>	<u>Heutige Welt; außerirdische Welten</u>
<u>T2—4</u>	<u>Europa Westeuropa</u>
<u>T2—43</u>	<u>Mitteleuropa Deutschland</u>
<u>T2—431-T2—435</u>	<u>Deutschland</u>
<u>T2—434</u>	<u>Südwestdeutschland</u>
<u>T2—4341</u>	<u>Hessen</u>
<u>T2—43416</u>	<u>Regierungsbezirk Darmstadt</u>
<u>T2—434161</u>	<u>Hochtaunuskreis, Rheingau-Taunus-Kreis, Main-Taunus-Kreis</u>
T2—4341618	Main-Taunus-Kreis

UNDER DISCUSSION: New subfield for Classification Number Hierarchy

\$e – Classification number hierarchy--single number or beginning number of span (R)

We propose to use the \$e subfield to link to the next number or number span upwards in the Dewey hierarchy. This will indirectly provide for links to the downward hierarchy.

084 0# \$a ddc \$c 22 \$e ger

153 ## \$z 2 \$a 4341618 \$z 2 \$e 434161 \$j Main-Taunus-Kreis

Partial Hierarchy for 338.47001-338.47999 in WebDewey

338.4	<u>Secondary industries and services</u>
338.47	<u>Services and specific products</u>
338.47001-338.47999	Subdivisions for products and services
338.47004	<u>Computer industry</u>
338.47005276	<u>Web site development industry</u>
338.47005376	<u>Internet software industry</u>
338.470253	<u>Abstracting and indexing services industry</u>
338.470705	<u>Publishing industry</u>
338.4730638	<u>Retirement industry</u>
338.4730674	<u>Prostitution--economics</u>
338.47332024	<u>Financial planning industry--economics</u>
338.47355	<u>Defense industries, . . .</u>
338.473621	<u>Medical economics, . . .</u>
338.4736375	<u>Undertaking (Mortuary)--economics</u>
338.47374013	<u>Education and training services industry</u>

UNDER DISCUSSION: Identification of Internal Table Numbers

- **Internal add tables, which apply only within a narrow range of numbers, can be placed**
 - (a) all in one record, using 763 field, or
 - (b) each internal table number can have its own table record, much like external tables, e.g., Table 2
- **We prefer to give each internal table number its own table record. We are modeling different approaches to identifying the tables**

Example: Internal Table at 333.7-333.9

333.7-333.9	Natural resources and energy
333.7	Land, recreational and wilderness areas, energy
333.8	Subsurface resources
333.9	Other natural resources

Notes

Aspects other than ownership

Class here raw materials

Except for modifications shown under specific entries, add to each subdivision identified by * as follows:

01-09	Standard subdivisions
1	General topics Class comprehensive works on specific topics in 333.71 .
[101-109]	Standard subdivisions Do not use; class in 01-09

Example: Internal Table at 333.7-333.9 (2)

>15-17	<p>Management and control</p> <p>Class here citizen participation, planning, policy</p> <p>Class comprehensive works in 333.7-333.9 without adding from this table .</p>
15	<p>Development</p>
152	<p>Improvement</p>
153	<p>Reclamation, rehabilitation, restoration</p> <p>Standard subdivisions are added for any or all topics in heading</p> <p>Class reclamation that is not restoration to a previous state in 152 .</p>
158	<p>Subsidies</p>
16	<p>Conservation and protection</p> <p>Standard subdivisions are added for either or both topics in heading</p> <p>Class control of usage in 17 ;</p> <p>Class comprehensive works on conservation and protection in 333.72 .</p>

Tracings and References

253 - COMPLEX SEE REFERENCE (R)

353 - COMPLEX SEE ALSO REFERENCE (R)

453 - INVALID NUMBER TRACING (R)

553 - VALID NUMBER TRACING (R)

Classification Note Fields

680 - SCOPE NOTE (R)

**681 - CLASSIFICATION EXAMPLE TRACING NOTE
(R)**

683 - APPLICATION INSTRUCTION NOTE (R)

684 - AUXILIARY INSTRUCTION NOTE (R)

685 - HISTORY NOTE (R)

686 - RELATIONSHIP TO SOURCE NOTE (R)

685 - HISTORY NOTE (R)

Information about the history of the use and meaning of a classification number that is contained either in a 153 classification number field or in a 453/553 tracing field with subfield \$w/3, Control subfield, code a.

685 - HISTORY NOTE: First Indicator--Result of Change

- 0 - Completely new number**
- 1 - Completely vacated number**
- 2 - Partially changed number**
- 3 - Reused after being vacated**
- 4 - Immediately reused**
- 8 - Other**

685 - HISTORY NOTE: Second Indicator--Type of History Information

- 0 - Relocation**
- 1 - Formerly**
- 2 - Discontinuation**
- 3 - Expansion**
- 8 - Other**

685 - HISTORY NOTE: Subfield Codes

\$a - New number--single number or beginning number of span (R)

\$b - Previous number--single number or beginning number of span (R)

\$c - Classification number--ending number of span (R)

\$d - Date of implementation of authoritative agency (NR)

685 - HISTORY NOTE: Subfield Codes (2)

\$e - Local implementation date (NR)

\$f - Title and publication date (NR)

\$i - Explanatory text (R)

\$t - Topic (R)

\$z - Table identification (R)

\$2 - Edition number (R)

685 - HISTORY NOTE: Subfield codes (3)

\$5 - Institution to which field applies (R) See Control Subfields

\$6 - Linkage (NR) See Control Subfields

\$8 - Field link and sequence number (NR) See Control Subfields

685 - HISTORY NOTE: Example 1

153 ## \$a 363.325 \$h Social sciences \$h Social
 problems & social services . . . \$h Other
 aspects of public safety \$h Social conflict \$j
 Terrorism

685 03 \$i expanded from \$b 363.32 \$d 20051101
 \$2 22

685 - HISTORY NOTE: Example 2

153 ## \$a 945.084 \$h History & geography . . .
 \$k Historical periods of Italian Peninsula and
 adjacent islands together, of Italy \$h 1796-
 1900 \$j Reigns of Victor Emmanuel II and
 Umberto I, 1861-1900

685 2 1 \$t 1870-1900 \$i formerly located in \$b
 945.09 \$d 19890306 \$2 20

Index Term Fields

- 700 - INDEX TERM--PERSONAL NAME (R)
- 710 - INDEX TERM--CORPORATE NAME (R)
- 711 INDEX TERM--MEETING NAME (R)
- 720 - INDEX TERM--UNCONTROLLED NAME (R)
- 748 - INDEX TERM--CHRONOLOGICAL (R)
- 750 - INDEX TERM--TOPICAL (R)
- 751 - INDEX TERM--GEOGRAPHIC NAME (R)
- 753 - INDEX TERM--UNCONTROLLED (R)
- 754 - INDEX TERM--FACETED TOPICAL TERMS (R)

Number Building Fields

761 - ADD OR DIVIDE LIKE INSTRUCTIONS (R)

**763 - INTERNAL SUBARRANGEMENT OR ADD
TABLE ENTRY (R)**

765 - SYNTHESIZED NUMBER COMPONENTS (R)

**768 - CITATION AND PREFERENCE ORDER
INSTRUCTIONS (R)**

765 - SYNTHESIZED NUMBER COMPONENTS (R)

- **To show how classification numbers are synthesized, to assist classifiers**
- **To facilitate computer manipulation of synthesized numbers**
 - To validate that the numbers have been synthesized correctly
 - To allow searching every use of a specific number

765 - SYNTHESIZED NUMBER COMPONENTS: Subfield Codes (1)

**\$a - Number where instructions are found--single
number or beginning number of span (R)**

\$b - Base number (R)

**\$c - Number where instructions are found--
Ending number of span (R)**

\$f - Facet designator (R)

\$r - Root number (R)

765 - SYNTHESIZED NUMBER COMPONENTS: Subfield Codes (2)

**\$s - Digits added from classification number in
schedule or external table (R)**

**\$t - Digits added from internal subarrangement
or add table (R)**

\$u - Number being analyzed (R)

**\$v - Number in internal subarrangement or add
table where instructions are found (R)**

765 - SYNTHESIZED NUMBER COMPONENTS: Subfield Codes (3)

**\$w - Table identification--internal
subarrangement or add table (R)**

\$z - Table identification (R)

\$6 - Linkage (NR) See Control Subfields

**\$8 - Field link and sequence number (R) See
Control Subfields**

Example: 345.730772 Built Number for Criminal Sentencing in United States

153 ## \$a 345.730772 \$h Social sciences \$h Law \$k
 Branches of law; laws, regulations, cases; law of specific
 jurisdictions, areas, socioeconomic regions \$k Branches
 of law \$h Criminal law \$k Specific jurisdictions and areas
 \$k Modern world; extraterrestrial worlds \$h North
 America \$h United States \$h Trials \$h Final disposition
 of cases \$j Sentencing

765 0# \$b 345 \$a 345.3 \$c 345.9 \$z 2 \$s 73

765 0# \$b 345.73 \$a 345.3 \$c 345.9 \$r 345 \$s 0772

Example: 345.730772 Criminal Sentencing in United States: Step 1

765 0# \$b 345 \$a 345.3 \$c 345.9 \$z 2 \$s 73

Notation 73 from Table 2 has been added to base number 345, following instructions at 345.3-345.9

Example: 345.730772 Criminal Sentencing in United States: Step 2

765 0# \$b 345.73 \$a 345.3 \$c 345.9 \$r 345
 \$s 0772

Notation 0772 from 345.0772 has been added to the new base number 345.73 (created in step 1), following instructions at 345.3-345.9

Example: 345.730772 Criminal Sentencing in United States: Component Numbers

345.0772 Law of criminal sentencing

T2--73 United States

Example: 346.04695416 Built Number for Animal Conservation Law

153 ## \$a 346.04695416 \$h Social sciences \$h Law \$k
 Branches of law; laws, regulations, cases; law of specific
 jurisdictions, areas, socioeconomic regions \$k Branches
 of law \$h Private law \$h Property \$h Government
 control and regulation of specific kinds of land and
 natural resources \$h Other natural resources \$h
 Biological resources \$h Animals \$h General topics \$k
 Management and control \$j Conservation and protection

765 0# \$b 346.046 \$a 346.046 \$r 333 \$s 954

765 0# \$b 346.046954 \$a 333.7 \$c 333.9 \$w 333.7
 \$c 333.9 \$t 16

Example: 346.04695416 Animal Conservation Law: Step 1

765 0# \$b 346.046 \$a 346.046 \$r 333 \$s 954

**Notation 954 from 333.954 has been added to
base number 346.046, following instructions
at 346.046**

Example: 346.04695416 Animal Conservation Law: Step 2

765 0# \$b 346.046954 \$a 333.7 \$c 333.9
\$w 333.7 \$c 333.9 \$t 16

Notation 16 from the add table at 333.7-333.9
has been added to the new base number
346.046954 (created in step 1), following
instructions at 333.7-333.9

Example: 346.04695416 Animal Conservation Law: Component Numbers

**346.046 Law of government control and
regulation of specific kinds of land and natural
resources**

333.954 Animals

333.7-333.9 Natural resources and energy

16 Conservation and protection

Control Subfields

\$5 - INSTITUTION TO WHICH FIELD APPLIES

\$6 - LINKAGE

\$8 - FIELD LINK AND SEQUENCE NUMBER

MARC 21 Format for Authority Data: Provisions for Classification Data

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Number and Code Fields (01X-09X)

082 - DEWEY DECIMAL CALL NUMBER (R)

**083 - DEWEY DECIMAL CLASSIFICATION
NUMBER (R)**

083 - DEWEY DECIMAL CLASSIFICATION NUMBER (R): Indicators

First - Type of edition

0 - Full

1 - Abridged

Second - Source of classification number

0 - Assigned by LC

4 - Assigned by agency other than LC

083 - DEWEY DECIMAL CLASSIFICATION NUMBER: Subfield Codes

\$a - Classification number element--single number or beginning number of span (NR)

\$b - Classification number element--ending number of span (NR)

\$c - Explanatory term (NR)

A phrase or term that specifies the topic of the classification number when the heading is represented in more than one place in the classification schedules.

083 - DEWEY DECIMAL CLASSIFICATION NUMBER: Subfield Codes (2)

\$z - Table identification--table number (NR)

\$2 - Edition number (NR)

**\$5 - Institution to which field applies (R) See
Control Subfields**

\$6 - Linkage (NR) See Control Subfields

**\$8 - Field link and sequence number (R) See
Control Subfields**

MARC 21 Format for Bibliographic Data: Provisions for Classification Data

MARC 21 Format for Bibliographic Data: Provisions for classification data

- **Classification and Call Number Fields (05X-08X)**
- **082 - DEWEY DECIMAL CLASSIFICATION NUMBER (R)**

082 - DEWEY DECIMAL CLASSIFICATION NUMBER (R): First Indicator

First - Type of edition

0 - Full edition

1 - Abridged edition

082 - DEWEY DECIMAL CLASSIFICATION NUMBER: Second Indicator

Second - Source of classification number

A value that indicates whether the classification number has been assigned by the Library of Congress or another organization.

- No information provided

0 - Assigned by LC

May be used by organizations transcribing from LC copy.

4 - Assigned by agency other than LC

082 - DEWEY DECIMAL CLASSIFICATION NUMBER: Subfield Codes

\$a - Classification number (R)

\$b - Item number (NR)

\$2 - Edition number (NR)

\$6 - Linkage (NR) See Control Subfields

**\$8 - Field link and sequence number (R) See
Control Subfields**

UNDER DISCUSSION: Adding Field to Show How a Number Is Built

- **A field that mirrors 765 - SYNTHESIZED NUMBER COMPONENTS in classification format**
 - Information can be copied from classification format to bibliographic format and back

- **081 – SYNTHESIZED DDC NUMBER COMPONENTS (NR)**
 - Field 081 under consideration because near field 082

UNDER DISCUSSION: Adding Field to Show How a Number Is Built: Example

082 0# \$8 1 \$a 346.04695416 \$2 22

**081 ## \$8 1.1 \$b 346.046 \$a 346.046 \$r 333 \$s
954**

**081 ## \$8 1.2 \$b 346.046954 \$a 333.7 \$c 333.9
\$w 333.7 \$c 333.9 \$t 16**

UNDER DISCUSSION: Giving More Information about Edition, Especially Language

Use \$2 Edition number field

Examples:

\$2 22 (latest version of DDC 22 file [currently available in WebDewey])

\$2 22/ger (latest version of German DDC 22 file [currently available in Melvil])

UNDER DISCUSSION: Indicating Assigning Agency

Use \$5 Institution to which field applies (R)

\$5 field already used in 083 field of authority format

Example: Dewey number assigned by DNB from Melvil:

082 04 \$a 004 \$2 22/ger \$5 GyFmDB

UNDER DISCUSSION: Designations for Optional Numbers

- **Many optional numbers appear in bibliographic records, but there is no way in MARC 21 bibliographic format to indicate that the numbers are optional**
- **Some optional numbers begin with alphabetic characters, but not all**

UNDER DISCUSSION: Designations for Optional Numbers: Example

**The first number is standard; the second is an
optional version of the same number:**

082 00 \$a 345.730772 \$a 347.305772 \$2 20

**We recommend putting the numbers in separate
082 fields with coding to indicate which is
standard, which optional. Details of the coding
are under discussion.**

UNDER DISCUSSION: Additional Designations for Multiple Numbers

- **Add coding to distinguish between the primary number, defined as the single number that would have been assigned using the instructions in the edition cited in subfield \$2.**
- **Add coding to allow table numbers to be added for access**
- **Details of the coding are under discussion**

Stay Tuned

For more information about topics under discussion, watch for MARC Discussion Paper: Representation of the Dewey Decimal Classification (DDC) System in MARC 21 Formats

<http://www.loc.gov/marc/marbi/list-dp.html>