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Relational aspects of subject authority control: the contributions of classificatory structure

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FRSAD starting point

The purpose of authority control is to ensure consistency in representing a value—a name of a person, a place name, or a term or code representing a subject—in the elements used as access points in information retrieval. . . . In addition to ensuring consistency in subject representation, a subject authority system may also record established semantic relationships among subject concepts and/or their labels.

Classification systems ≠ thesauri

- Fundamental unit of analysis: class
- Externally, classes organized into (poly)hierarchy
- Internally, classes structured as subgraphs around focal topics → “topic neighborhoods”
- Set of topics in class not fully enumerable

PARADIGMATIC RELATIONSHIPS EXPRESSED THROUGH THE CLASSIFICATORY STRUCTURE

Hierarchical relationships: Notational hierarchy

Type of relationship	Broader class	Narrower class
Specialization	005.75 Specific types of data files and databases	005.758 Distributed data files and databases
Instantiation	224 Prophetic books of Old Testament	224.8 Amos
Whole-part: portion	T2—5 Asia	T2—57 Siberia (Asiatic Russia)
Whole-part: component	352.4 Financial administration and budgets	352.46 Public expenditures
Whole-part: element of collection	340.55-340.59 Medieval, modern, religious systems of law	340.55 Medieval European law

Hierarchical relationships: See references

170 Ethics (Moral philosophy)

Class here conscience, good and evil; **ethics of specific subjects**, interdisciplinary works on social ethics

*For **religious ethics**, see 205; for **social ethics as a method of social control**, see 303.372. For **ethics of a specific religion**, see the religion, e.g., Christian ethics 241*

Equivalence relationships

612.115 Coagulation (**Clotting**)

Including role of fibrin, fibrinoplastin, plasma, thrombin in clotting

796.356 64 Rink hockey

Variant names: hardball hockey, quad roller hockey

324.294 04 The Nationals

Former names: Australian Country Party, National Country Party, National Party of Australia

Associative relationships within a class

T1—092 Biography

Autobiography, description and critical **appraisal of work**, diaries, reminiscences, correspondence of people . . . who are **part of the subject** or who **study the subject** . . .

006 Special computer methods

Class here **programs**, programming, **selection and use of hardware** in relation to special computer methods

Associative relationships using class-elsewhere notes

962.054 Administration of Anwar Sadat, 1970-1981
Class Israel-Arab War, 1973, in 956.048

956 Middle East (Near East)

956.04 1945–1980

956.048 Israel-Arab War, 1973 (Yom Kippur War)

Associative relationships using see-also references (1)

- Lexical similarity

T2—764 252 **Austin County**

*See also —76431 for **Austin (city)***

641.865 4 Cookies

Variant name: **biscuits**

*See also . . . 641.8157 for **biscuits**
(quick breads)*

Associative relationships using see-also references (2)

- Complementarity

190 Modern **western and other noneastern** philosophy

*See also 181 for **eastern** philosophy*

- Facet difference

621.91 Planing and milling **tools**

*See also 671.35 for **machining** metal*

Associative relationships using see-also references (3)

- Relational configuration difference

616.075 Diagnosis and prognosis

616.075 61 Blood analysis

*See also 616.15075 for **diagnosis**
of **diseases** of **blood***

616.15 Diseases of blood

*See also 616.07561 for use of **blood**
analysis in **diagnosis** of **diseases** in general*

616.150 75 Diseases of blood—diagnosis and
prognosis

RELATIONSHIPS EXPRESSED THROUGH THE RELATIVE INDEX

Relative Index (RI) headings (1)

- Functions
 - Index classes
 - Reflect topics
- Structure: Main heading + (optionally) 1+ subheadings
- Example

Commercial airplanes	387.733 404 23
engineering	629.133 340 423
piloting	629.132 521 6
transportation services	387.733 404 23
<i>see also</i> Aircraft	

Relative Index (RI) headings (2)

- Main headings may be:
 - Simple (e.g., Brass; Meteors; Solar flares)
 - Complex (e.g., Mate selection; Textual criticism)
- Subheadings may reflect:
 - Discipline / subdiscipline (e.g., Immigration – law)
 - Processes (e.g., Theater – influence on crime; Theft – prevention – management)
 - Time (e.g., Greece – ancient)
 - Viewpoint (e.g., Theology – Islam – Sufi)

Recording RI relationships

- MARC authority record
 - Hierarchical and associative relationships
 - 5XX See Also From Tracing Fields
 - Relationship information: \$i
 - Broader term: \$w g
 - Narrower term: \$w h
 - Equivalence relationships
 - 260 Complex See Reference
 - 4XX See From Tracing Fields

Automatic identification of RI equivalence relationships

- Synonym qualifiers
- Variant names
- Hyphenation differences
- Acronyms
- Equivalent in other tools
 - LCSH
 - WordNet
- Heuristic: If A and B are equivalent, then A—C and B—C are equivalent

Automatic identification of RI hierarchical relationships

- Heuristic: A—B BT A vs. A—B BT B
- Heuristic: X A BT A (e.g., Adj Noun BT Noun)
- Heuristic:
 - A—B BT BT-of-A—B
 - A—B BT A—BT-of-B
- Hierarchical relationship in other tools
 - LCSH
 - WordNet

SYNTAGMATIC RELATIONSHIPS EXPRESSED THROUGH THE CLASSIFICATORY STRUCTURE AND RELATIVE INDEX

Number building / RI structure correspondence (1)

787.87 *Guitars

*Add as instructed under 784–788

784–788 Instruments and their music

Add to each subdivision identified by * as follows:

11-17 General principles

Add to 1 the numbers following 781
in 781.1–781.7

781.643 Blues

787.871643 indexed by Guitars – music – blues

Number building / RI structure correspondence (2)

Table 1: *Correspondence between built number and Relative Index term components*

Base number	Component 1	Component 2	Relative Index term
787.87 Guitars	(784-788:)1 General principles, musical forms, instruments	(781.)642 Country music	Guitars – music – country music
787.87 Guitars	(784-788:)1 General principles, musical forms, instruments	(781.)643 Blues	Guitars – music – blues
787.87 Guitars	(784-788:)1 General principles, musical forms, instruments	(781.)644 Soul	Guitars – music – soul
787.87 Guitars	(784-788:)1 General principles, musical forms, instruments	(781.)65 Jazz	Guitars – music – jazz
787.87 Guitars	(784-788:)1 General principles, musical forms, instruments	(781.)654 Mainstream jazz (“including swing”)	Guitars – music – swing
787.87 Guitars	(784-788:)1 General principles, musical forms, instruments	(781.)66 Rock (Rock 'n' roll)	Guitars – music – rock

SO WHAT?

Importance of relational side of subject authority control in the DDC

- Help developers maintain system
- Support establishment of crosswalks between systems
- Help classifiers assign bibliographic records to most appropriate class
- Help end users find most appropriate resources for their needs
 - Assist in knowledge discovery when end user searches with entry vocabulary from one system against bibliographic records to which subject notation from other systems have been assigned

Thank you!

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Because what is known must be shared.SM