Stuttgart Media University

Heidrun Wiesenmüller

Precombination vs. Precoordination

Comparing LSCH and RSWK

Two subject heading languages

Library of Congress Subject Headings (LCSH):

- **prevalent Anglo-American indexing language**
  developed by the Library of Congress since 1898

- **inspired many other subject heading languages**
  e.g. the French RAMEAU

Regeln für den Schlagwortkatalog (RSWK):
(Rules for subject catalogs)

- **indexing language of the German speaking countries**
  used in Germany, Austria and Switzerland

- **first edition 1986**
  current: 3rd ed. 1998 (last revised in 2010)
  major revision impending

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Agenda

1. **Some basic principles**

2. **Presentation**

3. **Browsing and searching**

4. **Facets**

5. **Conclusion**

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1. **Some basic principles**

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Precombination vs. precoordination

LCSH:

Academic libraries—Collection development

RSWK *(with English translation):*

Wissenschaftliche Bibliothek ; Bestandsaufbau
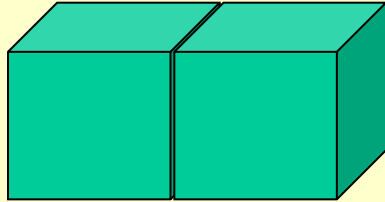
Academic library ; Collection development

➡️ *looks superficially similar*
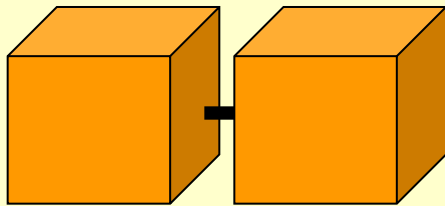*but: underlying principles completely different*

LCSH:

Academic libraries—Collection development

Two elements which have been precombined in advance („glued together") to form one single heading

RSWK:

Wissenschaftliche Bibliothek ; Bestandsaufbau

*Academic library ; Collection development*

Two separate elements which are precoordinated („put together") during the process of indexing according to the topic of the resource in hand

Authority records

- **LCSH: one single authority record**
  for a complex concept, comprising two aspects

150 __ |a Academic libraries |x Collection development

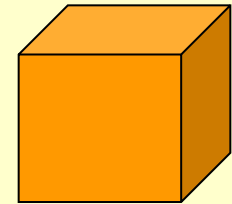550 __ |w g |a Collection development (Libraries)
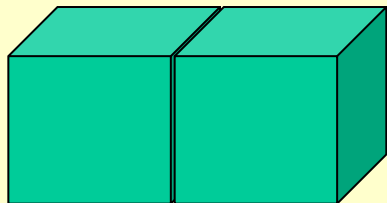
one large building block

- **RSWK: two authority records**
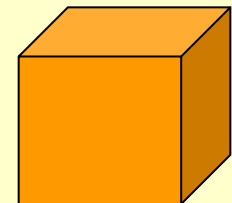 *each for a simple concept: small building blocks*

150 Wissenschaftliche Bibliothek
450 Wissenschaftliche Bibliotheken
550 !208865586!*Bibliothek*$4obal

Academic library

150 Bestandsaufbau
450 Erwerbungspolitik$vQuasisynonym
550 !211955949!*Erwerbungsrichtlinie*$4vbal
550 !208911774!*Erwerbung*$4vbal

Collection development

Structure of authority files
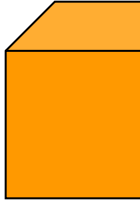
- **many authority records needed in LCSH**
  each complex concept needs its own authority record

LCSH: *nine authority records for the following concepts*

Academic libraries—Collection development
Academic libraries—Interlibrary loans
Academic libraries—Reference services
Public libraries—Collection development
Public libraries—Interlibrary loans
Public libraries—Reference services
Medical libraries—Collection development
Medical libraries—Interlibrary loans
Medical libraries—Reference services
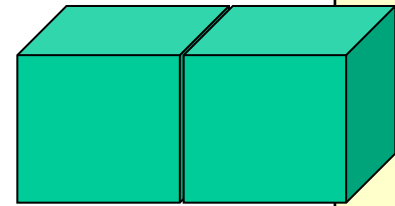
RSWK: *only six records needed to express the concepts:*

Wissenschaftliche Bibliothek	*(Academic library)*
Öffentliche Bibliothek	*(Public library)*
Medizinische Bibliothek	*(Medical library)*
Bestandsaufbau	*(Collection development)*
Leihverkehr	*(Interlibrary loans)*
Auskunftsdienst	*(Reference services)*

- **single concept headings can be freely combined**
  to form the necessary subject heading strings, e.g.:

Wissenschaftliche Bibliothek ; Bestandsaufbau

Öffentliche Bibliothek ; Bestandsaufbau

Medizinische Bibliothek ; Bestandsaufbau

etc.
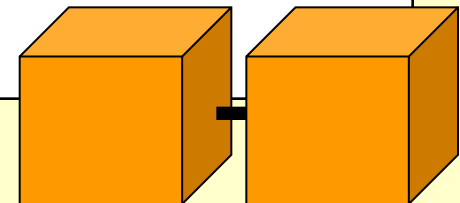
Rules for combination in RSWK

Fixed citation order according to primary categories:

1. *persons (p)*
2. *geographic aspects (g)*
3. *topical aspects (s)*
4. *temporal aspects (z)*
5. *form aspects (f)*

g. Frankreich ; s. Architektur ; z. Geschichte 1998-2007 ; f. Bildband

g. France ; s. Architecture ; z. History 1998-2007 ; f. Pic-torial work

- **Note:** *indicators for categories usually not shown in library catalogs*

Precoordination in LCSH

- **precombination supplemented by precoordination**
  e.g. geographic subdivisions and „free-floating" sub-divisions, which can be freely added to precombined headings (note: no full authority record in these cases)
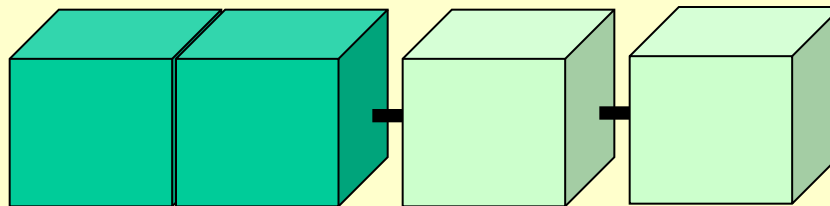
Examples:

Academic libraries—Collection development—United States—History—20th century

Public libraries—Reference services—Handbooks, manuals, etc.
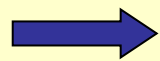
Introduction of new topics

RSWK:

- **in most cases no need for new authority records**
  typically the necessary single concept headings are already there and only have to be combined in a new way

LCSH:

- **often no suitable authority record exists**
  or can be built by using free-floating subdivisions etc.

- **new headings difficult and time-consuming to create**

  ➡ *typical solution: combination of several existing headings although each of them is broader than the topic of the resource in hand*

Building
Area Studies Collections

Edited by Dan Hazen
and James Henry Spohrer

Topic: *Development of collections for area studies (Africa, Southeast Asia, Latin America etc.) in libraries*

2007
Harrassowitz Verlag ·

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Libraries --Special collections --Area studies.
Area studies --Bibliography --Methodology.
Academic libraries --Collection development.

- **LCSH:** *three headings, each of them fairly broad*
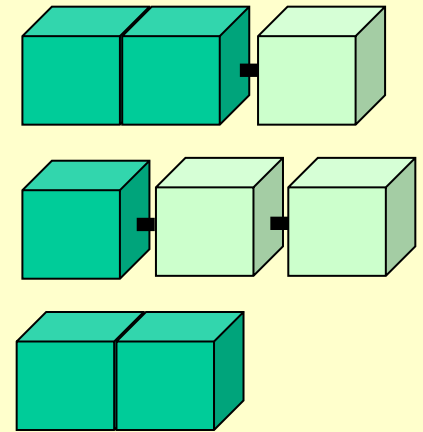
Bibliothek ; Kulturraumforschung ; Bestandsaufbau ; Aufsatzsammlung

Library ; Area studies ; Collection development ; Essays

- **RSWK:** *one subject headings string which matches the topic exactly*
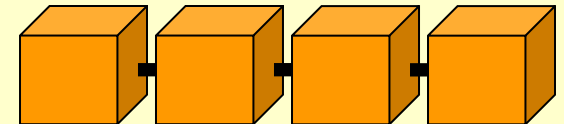
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1. **Some basic principles**

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User understanding

- **LCSH/RSWK: sometimes rather longish constructs**
  can easily consist of more than three bits of information

- **RSWK: headings are simply put one after the other**
  no additional means of expressing relationships

- **LCSH: makes use of prepositions and conjunctions**
  close to natural language, more expressive and easier to understand than structured headings

Examples:

Libraries and children with mental disabilities

Librarians in motion pictures

Cows on postage stamps

Understanding of structured strings?

Personal name: Eberlein, Johann Konrad.

Main title: Harald de Bary : Leben und Werk / von Johann Konrad Eberlein ; mit einem Beitrag von Ilonka Czerny und dem vollständigen Werkverzeichnis = Harald de Bary : life and work / by Johann Konrad Eberlein ; with a contribution from Ilonka Czerny and a complete catalogue of his work.

Published/Created: Frankfurt am Main : Dielmann, c2006.

Description: 223 p. : ill. (chiefly col.) ; 34 cm.

ISBN: 9783866381230

3866381239

Parallel title: Harald de Bary : life and work

Related names Bary, Harald de, 1935-

Subjects: Bary, Harald de, 1935- --Catalogues raisonnés.

Abstract expressionism --Germany --Catalogs.

- **Harald de Bary:**
exponent of a type of abstract art called „Informel" or „Informal art" (French: „art informel")

Bary, Harald de ; Informel ; Geschichte 1955-2005 ; Bildband

Bary, Harald de ; Werkverzeichnis 1955-2005

Bary, Harald de ; Biographie

Bary, Harald de ; Informel ; History 1955-2005 ; Pictorial work

Bary, Harald de ; Catalogue raisonné 1955-2005

Bary, Harald de ; Biography

RSWK

Bachelor thesis (Sabrina Stutz):

- **only the subject headings were shown to students**
  test persons were then asked what the book is about

- **results for this example:**
  - *several test persons did not understand that the book is <u>about</u> Harald de Bary*
  - *some test persons thought that the three strings referred to three different books*

Should we re-think presentation?

- **present several topics in a clearer way**

Topic 1: (...)
Topic 2: (...)
Topic 3: (...)

- **break up strings in several facets, e.g.**

Topic 2:

Person treated: Bary, Harald de
Form of treatment: Biography

Topic 3:

Person treated: Bary, Harald de
Form of treatment: Catalogue raisonné
Period covered: 1955-2005

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Strengths and weaknesses

- **LCSH:** *strong on browsing, weak on keyword searching*
- **RSWK:** *weak on browsing, strong on keyword searching*

Browse index

Number of entries

- **LCSH: headings often fairly general**
  *reasonable number of different headings in the index,
  often several titles with the same heading*

- **RSWK: very specific strings**
  *very many different strings in the index,
  often only one title for each string*

#	Hits	Headings (Select to View Titles)
[1]	11	Stuttgart (Germany)--Biography.
[2]	1	Stuttgart (Germany)--Biography--Portraits.
[MORE INFO] 3	0	Stuttgart (Germany) Bosch-Areal
[4]	57	Stuttgart (Germany)--Buildings, structures, etc.
[5]	1	Stuttgart (Germany)--Buildings, structures, etc.--Catalogs.
[6]	1	Stuttgart (Germany)--Buildings, structures, etc.--Designs and plans.
[7]	1	Stuttgart (Germany)--Buildings, structures, etc.--Designs and plans--Exhibitions.
[8]	5	Stuttgart (Germany)--Buildings, structures, etc--Exhibitions.
[9]	5	Stuttgart (Germany)--Buildings, structures, etc.--Guidebooks.
[10]	4	Stuttgart (Germany)--Buildings, structures, etc.--Pictorial works.
[11]	1	Stuttgart (Germany)--Census, 1987--Maps.
[12]	4	Stuttgart (Germany)--Church history.
[13]	1	Stuttgart (Germany)--Church history--Exhibitions.

extract from LC's browse index

▸	☐	1	stuttgart / architekt / geschichte 1900-1960
▸	☐	5	stuttgart / architekt / geschichte 1900-1960 / bibliographie
▸	☐	2	stuttgart / architektur
▸	☐	1	stuttgart / architektur / bautätigkeit / zeitschrift
▸	☐	1	stuttgart / architektur / behnisch, günter / ausstellung / stuttgart 2003
▸	☐	1	stuttgart / architektur / bildband
▸	☐	1	stuttgart / architektur / geschichte
▸	☐	1	stuttgart / architektur / geschichte / atlas
▸	☐	1	stuttgart / architektur / geschichte / bildband
▸	☐	1	stuttgart / architektur / geschichte 1800-1850
▸	☐	1	stuttgart / architektur / geschichte 1875-1924
▸	☐	1	stuttgart / architektur / geschichte 1893-1910 / bildband
▸	☐	2	stuttgart / architektur / geschichte 1893-1910 / kunstführer
▸	☐	1	stuttgart / architektur / geschichte 1900-1990 / kunstführer
▸	☐	1	stuttgart / architektur / geschichte 1900-2000
▸	☐	1	stuttgart / architektur / geschichte 1918-1945
▸	☐	1	stuttgart / architektur / geschichte 1924-2004 / bildband
▸	☐	1	stuttgart / architektur / geschichte 1950-1960
▸	☐	1	stuttgart / architektur / geschichte 1996-2006 / kunstführer
▸	☐	1	stuttgart / architektur / geschichte 1997 / aufsatzsammlung

*extract from the browse index
of the Southwest German
library network (SWB)*

Additional entry points:

- **LCSH: covered by structural references**
  only possible if there is an authority record

150 ___ |a Libraries |x Special collections

450 ___ |a Library special collections

450 ___ |a Special collections in libraries

550 ___ |w g |a Library resources

second entry point under „s"

But:

Academic libraries—Austria

no entry point under „Austria"

Austria—Economic conditions

no entry point under „Economic conditions"

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- **RSWK: covered by permutations**
  order of the headings in a string is changed in order to bring each significant heading to front position

Stuttgart ; Architektur ; Geschichte 1875-1924

Stuttgart ; Architecture ; History 1875-1924

second, permutated string:

Architektur ; Stuttgart ; Geschichte 1875-1924

Architecture ; Stuttgart ; History 1875-1924

But:

- **no longer obligatory since 2010**
  was also never done consistently in former times

- **alternatives need to be implemented**
  e.g. KWOC index

Keyword searching

Different data models:

- **German-speaking countries**
  *title records are linked with authority records,
  both headings and see references can be used in
  keyword searching*

- **Anglo-American world**
  *mostly no links from title records to authority records:
  only headings can be searched, but not see references*

  → *general technical problem, which will hopefully be
  overcome by technical means in the near future*

Structural problems in LCSH:

- **„see references" for synonyms**
  stored in authority records for basic concepts only

150 __ |a Social sciences	
450 __ |a Behavioral sciences	
450 __ |a Human sciences	
450 __ |a Sciences, Social	
450 __ |a Social science	
450 __ |a Social studies	
550 __ |w g |a Civilization	

150 __ |a Digital libraries
450 __ |a Digital curation
450 __ |a Digital media collections
450 __ |a Digital media libraries
450 __ |a Electronic libraries
450 __ |a Electronic publication collections
450 __ |a Electronic publication libraries
450 __ |a Electronic text collections
450 __ |a Virtual libraries
550 __ |w g |a Libraries
550 __ |a Information storage and retrieval systems
550 __ |a Web archives

- **precombined headings**
  no „see references" for synonyms

```
150 __  |a Social sciences |x Digital libraries
550 __  |w g |a Digital libraries
```

- **geographic or free-floating subdivisions**
  no authority records, i.e. no references possible

    → *these problems are unknown in RSWK*
       due to its different structure

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POETRY
FOUNDATION

Seven facets
aimed specifically at the browsing of poems

Need to make a toast? ▶ Find poems for weddings, commitment ceremonies, and other occasions.

| POEMS & POETS ▾ | FEATURES ▾ | RESOURCES ▾ | PROGRAMS & INITIATIVES ▾ | POETRY MAGAZINE ▾ |

Home > Poems & Poets

POEMS 📘 🐦 t ✉ Share 🖨 Print | **POETS**

REFINE YOUR SEARCH

SUBJECT ⌄

OCCASION ⌄

HOLIDAY ⌄

SCHOOL / PERIOD ⌄

POET'S REGION ⌄

POET'S BIRTHDATE ⌄

POETIC TERMS ⌄

1–20 of 10756 Poems
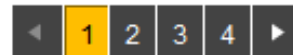
◀ 1 2 3 4 ▶ | Views ☰ ☰ | Sort by Recently Added ▾

Years
BY ALICIA OSTRIKER

I have wished you dead and myself dead,
How could it be otherwise.
I have broken into you like a burglar . . .

Br
BY
She

http://www.poetryfoundation.org
Thanks to Debora Shon for this great example!

SUBJECT ⌄
Love
Nature
Social Commentaries
⌄ more subjects

OCCASION ⌃
Anniversary
Birth
Birthdays
⌄ more occasions

HOLIDAY ⌄

SCHOOL / PERIOD ⌄

POET'S REGION ⌄

POET'S BIRTHDATE ⌄

POETIC TERMS ⌃
⌄ Verse Forms
⌄ Stanza Forms
⌄ **Meters**
　　Blank Verse
　　Common Measure
　　Syllabic
　　Free Verse
⌄ Techniques
⌄ Types/Modes

Some basic points about facets:

- **specific vs. universal facets**
  „poetic terms" or „occasion" specific to a certain area, but there are also universal facets like place and time

- **number and presentation of values**
  facets make most sense if the num-ber of different values is not too large (e.g. „occasion": only 11 values) and the values are well-arranged (e.g. hierarchically as in „poetic terms")

  ⟹ *building of facets from RSWK and LCSH should concentrate on universal dimensions of time, place and form*

Faceting LCSH/RSWK

RSWK:

- **has „built-in" facets**
  e.g. person headings, geographic headings, form headings, time headings

- **but: usually only one facet for subject headings**
  e.g. University Library of Augsburg: all kinds of headings presented in the same drill-down facet

https://opac.bibliothek.uni-augsburg.de/InfoGuideClient.ubasis/start.do?Login=iguba

⊟ **Themen/Schlagwörter (grob)**

Kunst (30)
Abstrakte Kunst (28)
Geschichte (24)
Deutschland (23)
Ausstellung (18)
Lehrbuch (16)
Ästhetik (14)
Aufsatzsammlung (12)
Abstrakte Malerei (9)
Malerei (9)
Deutsch (8)
Kandinsky, Wassily (8)
Konkrete Poesie (8)
Literatur (8)
Konkrete Kunst (7)
Rezeption (6)
Staatsrecht (6)
Allgemeines Ver... (5)
Kongress (5)
Kunsterziehung (5)
Theorie (5)

LCSH:

- **complex headings must first be split up**
  in order to create facets

- **FAST project (OCLC)**
  Faceted Application of Subject Terminology

United States—Civilization—Italian influences—History— 20th century—Sources

reworked in FAST as:

Geographic:	United States
Topical:	Civilization—Italian influences—History
Period:	1900-1999
Form:	Sources

- **there are also different attempts at creating facets**
  e.g. Endeca catalog of NCSU Libraries

Time Period

1775-1783 (5)
17th century (9)
1815-1861 (5)
1837-1901 (4)
18th century (19)
1918-1945 (4)
1919-1932 (1)
1933-1945 (5)
1945- (49)
1945-1964 (3)
1945-1989 (2)
1947-1984 (1)
1971-1990 (1)
1975- (3)
1979- (3)
1979-1997 (16)
1984- (1)
1990- (3)
1993- (4)
19th century (44)
20th century (124)
21st century (23)
Allied occupation, 1945-1952 (1)
Civil War, 1642-1649 (10)
German occupation, 1940-1945 (1)
King William's War, 1689-1697 (3)
Revolution, 1775-1783 (13)
Soviet occupation, 1979-1989 (2)
To 1863 (1)
To 1900 (1)

Time facet (Endeca):

- **more normalization needed**
  using FAST headings would help

- **too many different values**
  if presented in a facet at all, it would be better to have broader, yet more regular units (e.g. only centuries or decades)

- **only explicit years are used**
  there are also cases like e.g. „Art, Early Christian" or „Punic wars", where the time information is hidden/implicit

http://www.lib.ncsu.edu/catalog/

Time headings in RSWK:

- **even more manifold, as exact years are given, e.g.**
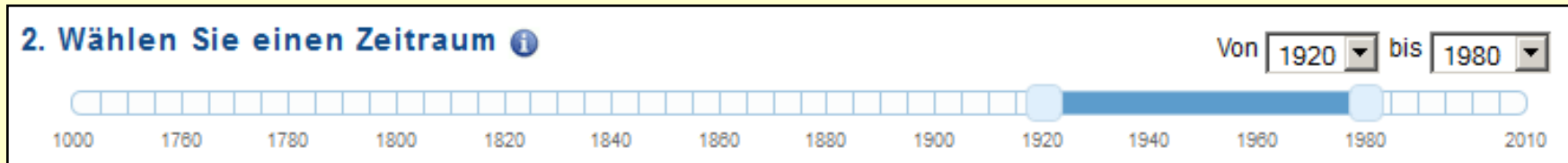 *Geschichte 1904-1912*
  Geschichte 1892-1929
  Geschichte 1907

  ➡️ *would all be relevant for somebody interested
  in the time span „1900-1910"*

- **could be solved by a special algorithm**
  *which works out the relevant results for every query;
  could be presented as a time bar instead of a facet
  (a concept for this has already been developed)*

Region	
Boston	(7)
Boston (Mass.)	(4)
Chicago	(4)
Connecticut	(4)
England	(52)
Europe	(6)
Florence	(6)
Florence (Italy)	(4)
France	(8)
Great Britain	(19)
Illinois	(5)
Istanbul	(5)
Italy	(32)
London	(13)
London (England)	(6)
Massachusetts	(13)
Mexico	(8)
New England	(11)
New York (State)	(5)
North Carolina	(13)
Pennsylvania	(6)
Philadelphia	(4)
Rome	(14)
Rome (Italy)	(7)
Russia (Federation)	(5)
South Carolina	(7)
Southern States	(4)
Spain	(6)
Turkey	(7)
United States	(34)

Region facet (Endeca):

- **more normalization needed**
  e.g. „Boston" (place as geographic subdivision) vs. „Boston (Mass.)" (place as main heading), using FAST headings would help

- **no hierarchical display**
  „Europe", „England" and „London" in the same list

- **only explicit place information**
  geographic information about e.g. persons is not covered

Geographic facet based on RSWK

- **two protoypic implementations**
  University Library of Mannheim
  University Library of Heidelberg

- **based on country codes in authority records**
  hierarchically structured codes:
  continent – country – (federal state or canton)
  e.g. XA-DE-BW:
  Europe – Germany – Baden-Wurttemberg

- **country codes are stored in many records**
  not only in geographic headings, but also in records for
  persons, corporate bodies, buildings, historic events etc.

  ➡ *in retrieval, the recall is much better when*
  using the codes instead of geographic names

043 XA-DE-BW
065 19.1b
083 T2--4346$t2007-01-01
151 Schwarzwald
550 !209582146!*Mittelgebirge*$4obin
670 B 1996, Geo-Du.

Black Forest

043 XD-US
065 7.14p;16.5p
083 973.932092$d3
100 Obama, Barack
375 m
400 Obama, Barack Hussein
400 Ūbāmā, Bārāk
500 !302386661!*Obama, Michelle*1964-*$4bezf$v*Ehefrau
500 !178890049!*Obama, Auma*1960-*$4bezf$v*Schwester
548 1961$4datl
548 04.08.1961$4datx
550 !209069961!*Politiker*$4berc
550 !208980806!*Jurist*$4beru
550 !209494697!*Präsident*$4beru
551 !209559403!*Honolulu, Hawaii*$4ortg
670 LCAuth
678 $b44. Präsident der USA seit 20.01.2009,
Friedensnobelpreisträger 2009

043 XA-FR
065 16.5
083 940.27$d1$t2009-11-23
083 944.04$d3$t2009-11-23
150 Französische Revolution
450 Revolution$g1789
451 Frankreich$xRevolution$g1789
548 1789$b1799$4datb
551 !208922857!*Frankreich*$4geoa
667 Beispiel in RSWK 3. Aufl.
670 M
679 1789-1799

French Revolution

Geographic Reference

EUROPE (61)
- Switzerland (2)
- East Germany (GDR) (3)
- Germany (44)
- - Baden-Württemberg (2)
- - Bavaria (2)
- - Lower Saxony (1)
- - North Rhine-Westphalia (2)
- France (2)
- United Kingdom (3)
More options ⌄

- **Geographic facet in Mannheim**
  short version (left) and full version (right)

Refine Search

Include	Exclude	Geographic Reference
☐	☐	EUROPE (61)
☐	☐	- Switzerland (2)
☐	☐	- East Germany (GDR) (3)
☐	☐	- Germany (44)
☐	☐	- - Baden-Württemberg (2)
☐	☐	- - Bavaria (2)
☐	☐	- - Lower Saxony (1)
☐	☐	- - North Rhine-Westphalia (2)
☐	☐	- France (2)
☐	☐	- United Kingdom (3)
☐	☐	- Russian Federation (3)
☐	☐	- Sweden (1)
☐	☐	- Ukraine (2)
☐	☐	ASIA (6)
☐	☐	- China (2)
☐	☐	- India (1)
☐	☐	- Japan (1)
☐	☐	- Taiwan, Province of China (1)
☐	☐	AMERICA (3)
☐	☐	- USA (3)

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Agenda

1. **Some basic principles**

2. **Presentation**

3. **Browsing and searching**

4. **Facets**

5. **<u>Conclusion</u>**

Comparing LCSH and RSWK

- **radical structural differences between the systems**
  very instructive to note and explore them

- **problems are partly similar, partly very different**
  often it can help to look at the solutions
  of the other subject heading language

- **browsing and searching**
  RSWK needs to improve on browsing,
  LCSH needs to improve on keyword searching

- **presentation and faceting**
  should be further developed in both systems

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Thank you
for your attention!

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