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D4.3 – Integrated Bibliography

This document will present the Bernstein Integrated Bibliography deliverable 4.3. This deliverable has been implemented with bibliographical data from the German National Library (DNB) in Leipzig. It is shown as series of screen shots in this document and also available on-line at: <http://dnb.cheshire3.org/dnb/>

The document is split into the following sections:

- Background
- The Transformed Database
- XML schema
- The Search Tool
- A Data Report
- Future Refinements

Background

Paper, its history, watermarks, trade, conversion and use are of interest to scholars in the fields of history, codicology, bibliography, musicology, art history, and for people active in paper conservation and forensic science.

All over the world experts contribute to this domain of knowledge; they publish dictionaries, create watermark repositories, watermark handbooks, and publish articles in various periodicals. The publications in this domain as a whole represent the standard of knowledge. Unfortunately many areas of this domain are ignored by scholars and other users – they fall out of focus due to either a lack of documentation or a lack of easy access to that documentation.

The Bernstein Bibliographic Database contains documents that represent a cross section of these publications, written in many different languages. This title material makes no claim to be complete, and it has a tendency towards German language publications. This is because the data comes from the continuous documentation from the German Book and Writing Museum of the German National Library in Leipzig.

On an object level the bibliographic database has been a multilingual project from its beginning. Originally classification, subject headings and geographical terms had been described from a German point of view. As a result of the Bernstein Project, the schema of the bibliographic database has been completely changed and the structure now allows a multilingual handling of these aspects.

The Bernstein deliverable D4.3 - Integrated Bibliography is due on the January 31st 2008. It is first a schema allowing web access to existing data and a possibility for continuous work in the field of translation and harmonization – harmonization in particular with other parts of the Bernstein Workspace (GIS module, statistics, dissemination). Some of these modules are not developed enough

to bring that harmonization and integration to fruition, therefore WP 4.3 is not yet at an end as of January 31st 2008 but is still work in progress - this will improve the harmonization and therefore result in a better end product.

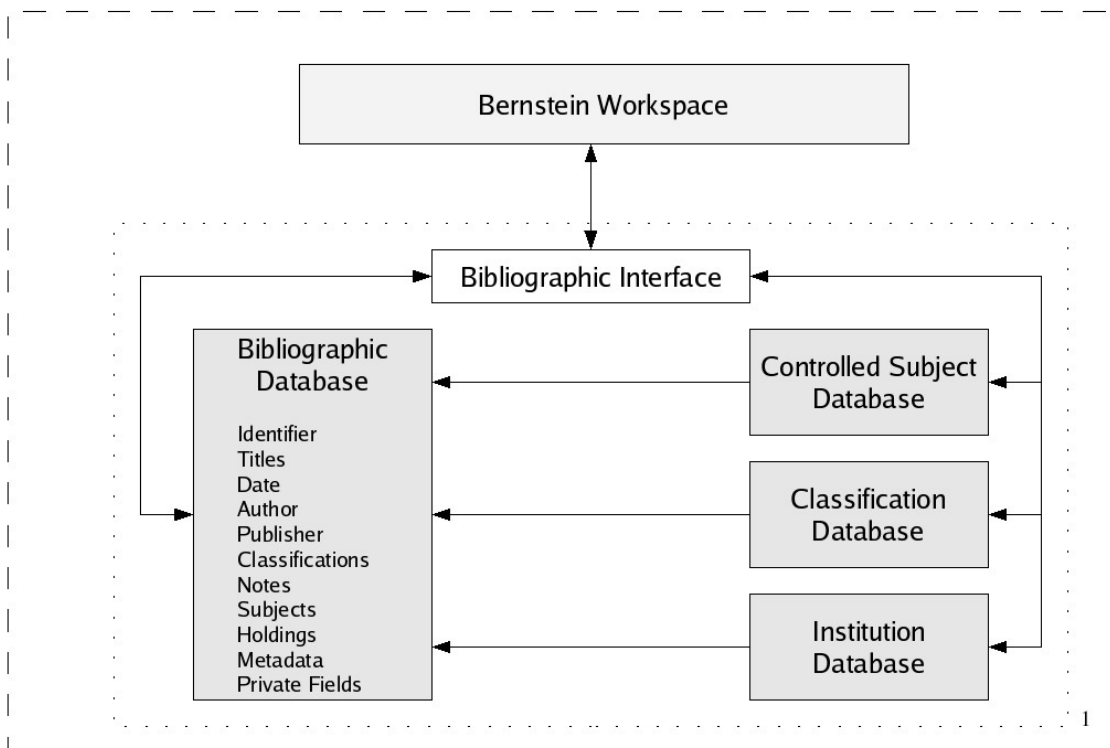
The Transformed Database

Each of the records in the bibliographic database contains the information, as listed in the XML schema, for fields as required to define the holding. These records contain codes for information for authors, controlled subjects, classification and institutions. The codes are resolved using information contained in separate databases and therefore provide the multilingualism desired for the Bernstein Workspace. These records will be searched through a separate Bibliographic Interface (as described in the prototype of the search tool) and through the Bernstein integrated workspace as described in deliverable no. 11, D1.2 – The Workspace Integration.

The bibliography is stored as a Cheshire3 database (www.cheshire3.org). Cheshire3 extracts data from the given set of XML records into indexes. It pre-processes these records with configurable workflows to add normalization. Once the indexes have been constructed, it supports operations such as search, retrieve, browse and sort (for screen shots see the interface sections). Using Apache handlers, an interface is provided directly to this database, so it is accessible to the Bernstein Integrated Workspace via SRU (www.loc.gov/standards/sru/).

The architecture of this tool is described in deliverable no. 9, D4.2 – Integrated Bibliography v1. A diagram defining this architecture is included below for reference:

Bibliographic Integration Architecture



The XML schema

The XML Schema is split into 4 sections; Bibliographical Data, Classification, Subject and Relations. The bibliographical data schema defines each field that may be required to record a full description of each item. The classification, subject and relations define items which may be common to more than one record, each of these also provides the capability to encode data for display in multiple languages by the use of the `xml:lang` attribute.

Please see the attachment 1 for the full definition of the schema.

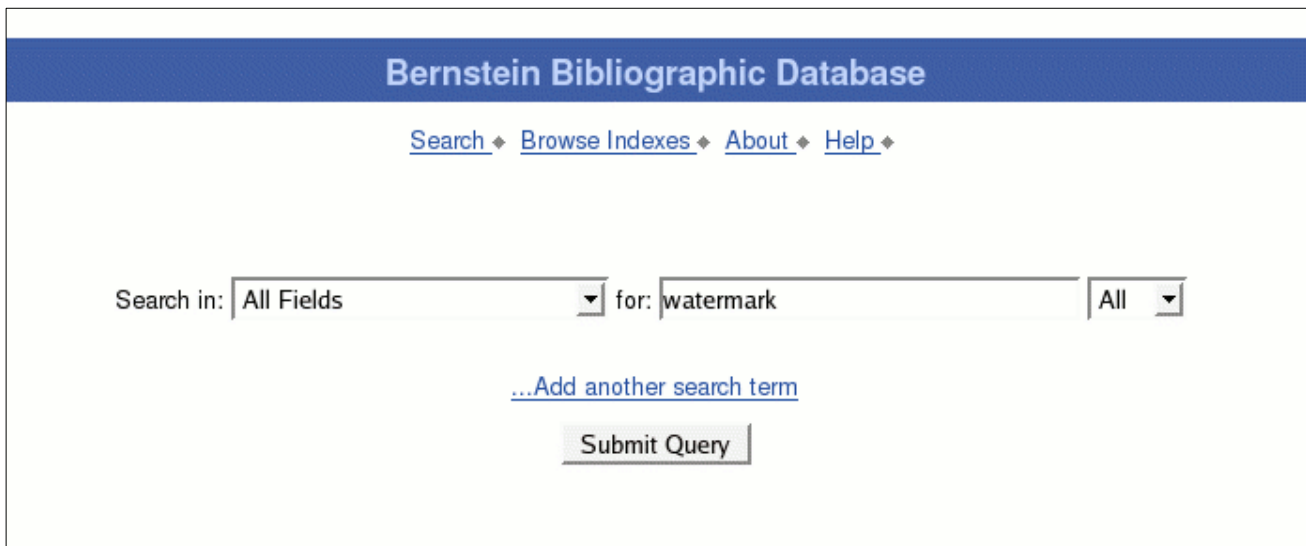
The Bibliographic Tool

The search tool offers the facility to access records by both searching and browsing for specific words within defined indexes for certain fields within the database. These methods are discussed in further detail below. The interface also provides areas for text discussing both about the bibliography (“About”) and how to use this bibliographic tool (“Help”).

The Search Interface

The search interface for the bibliographic database allows the user the ability to input a query to search either all fields or, title, author, corporal editor, location of print, year, shelf mark, bibliographic references, ISBN, subjects and subject heading (separate search masks for each motive, location, person and corporation) fields. The all fields, title, and location of print searches will return all records that contain the query word somewhere in the field, where as, the other search fields are more specific and will return records which have the query word or words in an identical form encoded in the appropriate tag within the record. Variation between these two styles of search is simple and in the future the interface can easily be adapted to suit user requirements.

The initial search interface is show below:



Bernstein Bibliographic Database

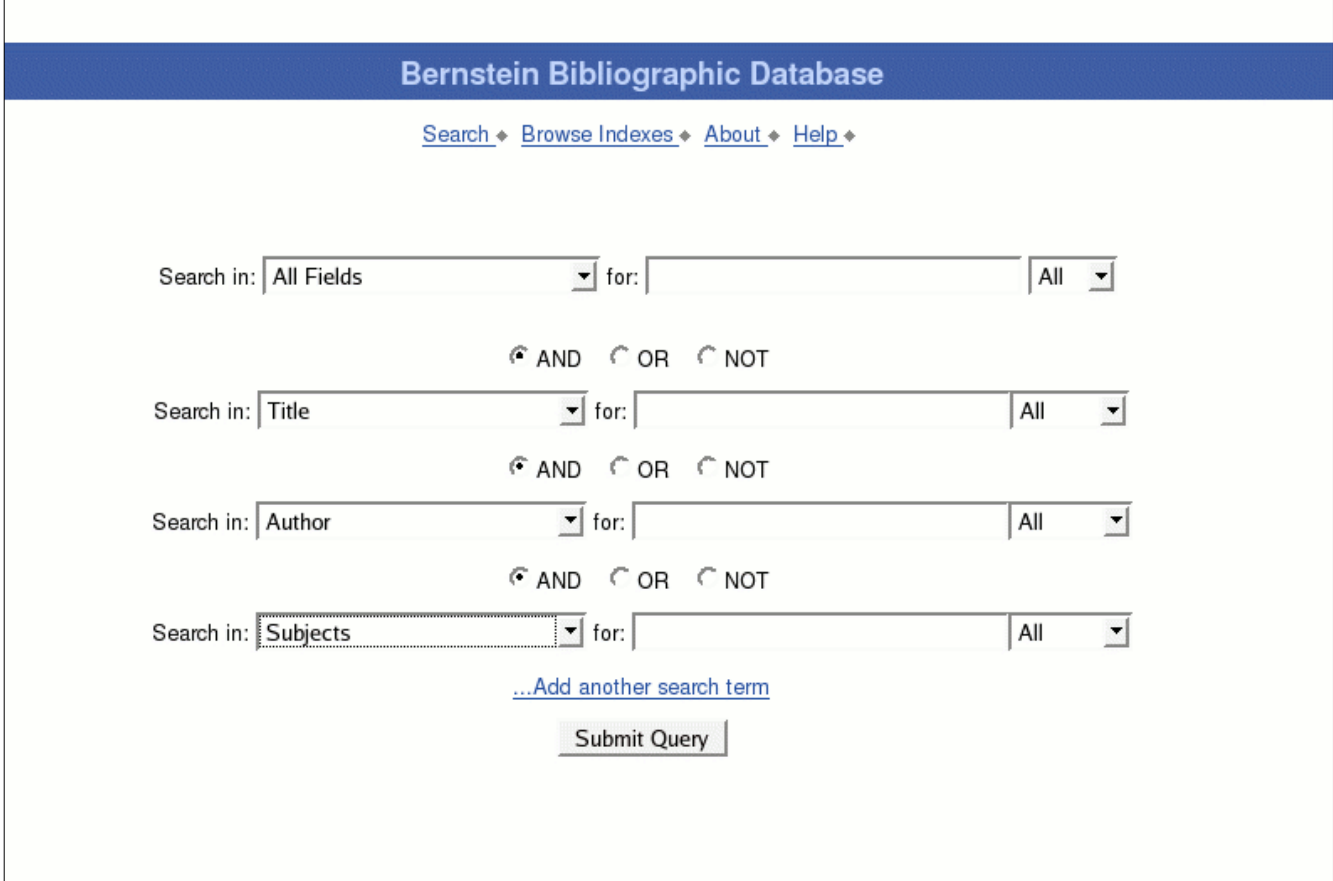
[Search](#) ♦ [Browse Indexes](#) ♦ [About](#) ♦ [Help](#) ♦

Search in: for:

[...Add another search term](#)

The search query can be made more complex by linking together multiple searches using the boolean operators, OR, AND, and NOT. The initial screen has one search box, more search boxes can be added using the “...Add another search term” javascript link. This provides in a single interface both simplicity and clarity for users when they first interact with the tool, and, the capacity to easily make the query more complex if required.

The Search interface once more search boxes have been added is shown below:



The screenshot displays the search interface for the Bernstein Bibliographic Database. At the top, there is a blue header with the text "Bernstein Bibliographic Database". Below the header, there are navigation links: "Search", "Browse Indexes", "About", and "Help". The main search area contains four search boxes, each with a dropdown menu for the search field and a dropdown menu for the search scope. The first search box has "All Fields" selected for the field and "All" for the scope. The second search box has "Title" selected for the field and "All" for the scope. The third search box has "Author" selected for the field and "All" for the scope. The fourth search box has "Subjects" selected for the field and "All" for the scope. Between each search box, there are radio buttons for the boolean operators "AND", "OR", and "NOT". Below the search boxes, there is a link "...Add another search term" and a "Submit Query" button.

If the user searches in either the author, corporal editor or any of the subject fields the users query searches the control subject database rather than the bibliographic database (see the architecture diagram). The query is resolved, using this control database, to a numerical code value. The same value encodes all variations of the concept, for example it encodes different forms of the author (Gravell, Thomas L. is also referred to as Gravell, Tom or Gravell, Th. L.) so no matter which text version the user searches for the same encoding will be resolved. The control database also stores the terms in multiple language forms (USA is also stored as, United States (en), États-Unis (fr), Vereinigte Staaten von Amerika (de), Vereinigte Staaten von Nordamerika (de), Nordamerika (de)) therefore, different users could search in different languages yet still resolve the same concept. This code is then used to search the bibliographic database for appropriate records.

The results of a query are displayed to the user as a list. Each record in the list displays, where available, the title of the record, the author of the record, disambiguation of the author (“Author also referred to as”), imprint and date. The title then acts as a link to display the full record. The record display is discussed in the Data Report section below.

The results list interface is shown below:

Bernstein Bibliographic Database

[Search](#) ♦ [Browse Indexes](#) ♦ [About](#) ♦ [Help](#) ♦

Search Results

Your search was for: all-kwd all "watermark"

148 Results

Filter by [Language](#) or [Document Type](#)

1. [Watermark evidence and inference](#)
Author: Weiss, Adrian

2. [British watermarks: De La Rue's paper and watermarks](#)
Author: Dagnall, Harry

3. [British watermarks: a rapid and economical method of recording watermarks](#)
Author: Lynch, Elizabeth

4. [Watermarks in Rembrandt's prints: The use of watermarks to study the prints of an artist](#)
Author: Ash, Nancy

5. [Watermarks and filigranology](#)
Author: Liljedahl, Gösta
Author also referred to as Liljedahl, G.

6. [Watermarks are twins](#)
Author: Stevenson, Allan Henry

7. [An unidentified watermark](#)
Author: Deneen, Thalia S.

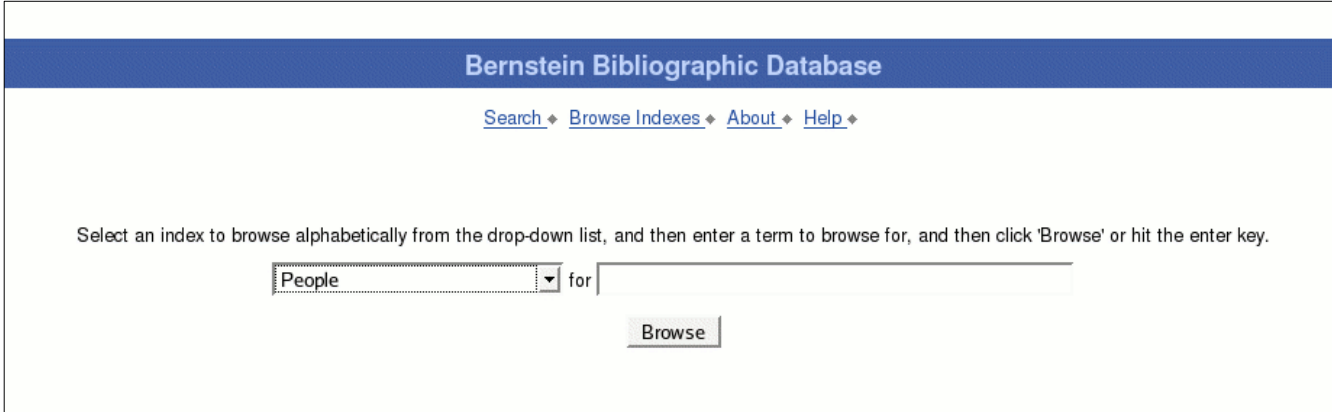
8. [Historic watermarks](#)

9. [Reproducing watermarks](#)
Author: Alston, Robin

The Browse Interface

The browse interface enables the user to look through terms stored in the database by browsing the fields (indexes). The browse fields are: title, people, corporal editor, location of print, year, shelf mark, bibliographic references, ISBN and various subject indexes.

The browse interface is shown below:



Bernstein Bibliographic Database

[Search](#) ♦ [Browse Indexes](#) ♦ [About](#) ♦ [Help](#) ♦

Select an index to browse alphabetically from the drop-down list, and then enter a term to browse for, and then click 'Browse' or hit the enter key.

People for

The user can choose to start at a particular location in the index by inputting a letter or word at which to start – if none is inputted the browse starts at the first term in the index. The user can then browse backwards and forwards through this index. Each term from the index is displayed as a link. If the user wishes they can click on this link – the term they have chosen then becomes a search query and the index that is being browsed the chosen search index. This link takes them through to the results list as specified above.

As with the search interface if the user browses the author, corporal editor or any of the subject fields, they are actually browsing the control database indexes. In the link that takes the user through to the results page a natural language form of the concept is displayed but the search of the bibliographic database uses the code format.

The results of the browse are shown in the interface as below:

Bernstein Bibliographic Database	
Search ♦ Browse Indexes ♦ About ♦ Help ♦	
Browse Indexes Results	
Term	Records
-- start of index --	
Allison, Robert W.	3
Bansa, Helmut	1
Betzwieser, Thomas	1
Bockwitz, Hans Heinrich	5
Bower, Peter	3
Dagnall, Harry	1
Fiedler, Florian	1
Hoyer, Fritz	3
Keller, Arnold	4
Korn, Rudolf	4
Kotte, Hans	3
Kufferath, Wilhelm	1
Piccard, Gerhard	35

A Data Report

Once a record has been selected from the results page it is displayed in full. The numerical classification of the record is displayed, this defines the context or the record, how the holding is categorized according to other records within the bibliography. This facility will be expanded give a more visible representation of the classification in the future. The title, author, publisher, date, several identification or publication fields (such as ISBN, leif and many others), edition, notes, series information, issue information and subject information are displayed if they are contained in the raw data of the record. In this raw data the author and subject fields are encoded with a numerical code as discussed above. These code representations are also stored in a separate, but linked, database. This database is used to resolve the encodings into natural language specifications of the author or subject. The natural language specification contains different representation, normalizations and language variants of these encoded fields. At present all variations and representations of the concept are listed in the record display – the author field is headed by “Author also referred to as”, each subject is listed accompanied by the language it is specified in. This tool has the capacity, with slight interface refinement, to be altered to show one or more version of the concept and/or to only display in the language(s) defined by the user.

Each record is shown as the data report of a record below:

Bernstein Bibliographic Database

[Search](#) ♦ [Browse Indexes](#) ♦ [About](#) ♦ [Help](#) ♦

Record

Record

3461
 Classification: 8.3.3.
 Author: Mošin, Vladimir Aleksejevič
 Author also referred to as Mošin, V. A.
 Title: Anchor watermarks
 Identification: WBB 010646 LEIF 0370 PULSIANO 322
 Date: 1973
 Amsterdam : Paper Publ. Soc., Labarre Foundation Title Series: Monumenta chartae papyraceae historiam illustrantia ; 13
 Subject: Anker (Wasserzeichen) (de) or Anchor (watermark) (en) or Ancre (filigrane) (fr) or Flunke (de)
 Subject: Wasserzeichen (de) or Papierzeichen (de) or Werkzeichen \ Papier (de) or Signet \ Papier (de) or Papiermarken (de) or Meistermarken (de)
 Subject: Motive (de)

Future Refinements

The focus of this stage of the bibliography work package was to develop a useful bibliographic tool which can be seamlessly integrated into the Bernstein workspace. The functions of this tool were prioritized, therefore some aspects will need to be refined over time as the Bernstein Project progresses – for example to fit with the final look and feel of the integrated workspace. The interfaces can also be further adapted to provide better usability – for example providing users with filtering and sorting facilities. The database only contains a subsection of data at present as the conversion process from the previous system is still in progress. As soon as further data is available this will be included in the database.

Further future refinements are listed below:

- Visualization tool for the categorization.
- Improved display on the full record – enable display by language.
- Sorting of results by title, author year and combinations of those.
- Filter results list by document type and language.
- Various interface changes to make it more user friendly – for example using icons to make the document types more obvious.
- Saving records in sets – dependent of the system the integrated workspaces uses to identify users and interact with those users.
- Add in the Bernstein workspace template and translate interface into stipulated languages.

*Attachment 1***XML-Schema:**

```
<?xml version="1.0" encoding="UTF-8" ?>
=<l:pgwz xmlns:l="http://www.d-nb.de/namespaces/pgwz/no_valid_uri">
```

Bibliographical Data:

```
=<l:bibliography>
  =<l:bibrecord id="identification number000000">
    <l:identifier>identification number</l:identifier>
    =<l:metadata xmlns:dc="http://purl.org/dc/elements/1.1/">
      =<dc:creator>
        <l:author-name-personal l:origin="#10">first author (reference to master record)</l:author-
          name-personal>
        </dc:creator>
      =<dc:creator>
        <l:author-name-personal l:origin="#10a">first corporate editor (reference to master
          record)</l:author-name-personal>
        </dc:creator>
      =<dc:creator>
        <l:author-name-used l:origin="#48">author / editor in used form</l:author-name-used>
        </dc:creator>
      =<dc:contributor>
        <l:contributor-name-personal l:origin="#20">first further person (reference to master
          record)</l:contributor-name-personal>
        </dc:contributor>
      =<dc:contributor>
        <l:contributor-name-personal l:origin="#20a">second further person (reference to master
          record)</l:contributor-name-personal>
        </dc:contributor>
      =<dc:contributor>
        <l:contributor-name-personal l:origin="#20b">third further person (reference to master
          record)</l:contributor-name-personal>
        </dc:contributor>
      =<dc:contributor>
        <l:contributor-name-corporate l:origin="#21">first further corporate editor (reference to
          master record)</l:contributor-name-corporate>
        </dc:contributor>
      =<dc:contributor>
        <l:contributor-name-corporate l:origin="#21a">second further corporate editor (reference
          to master record)</l:contributor-name-corporate>
        </dc:contributor>
      =<dc:contributor>
        <l:contributor-name-corporate l:origin="#21b">third further corporate editor (reference to
          master record)</l:contributor-name-corporate>
```

```

    </dc:contributor>
= <dc:title>
  <l:title type="normalized">title (Hauptsachtitel)title (group by)number of title in the title
    group</l:title>
  </dc:title>
= <dc:title>
  <l:title type="full" xml:lang="x-unknown">title (Hauptsachtitel)title (group by)number of
    title in the title group : additional title</l:title>
  </dc:title>
= <dc:title>
  <l:title-remainder l:origin="#45">additional title</l:title-remainder>
  </dc:title>
= <dc:title>
  <l:title-normalized l:origin="#43">title (Ansetzungssachtitel)</l:title-normalized>
  </dc:title>
= <dc:title>
  <l:title-uniform l:origin="#70">title (Einheitssachtitel)</l:title-uniform>
  </dc:title>
= <dc:title>
  <l:title-parallel l:origin="#466">title (1. Parallelsachtitel)</l:title-parallel>
  </dc:title>
= <dc:title>
  <l:title-parallel l:origin="#467">title (2. Parallelsachtitel)</l:title-parallel>
  </dc:title>
= <dc:title>
  <l:title-variant l:origin="#45aa">first additional title for searching</l:title-variant>
  </dc:title>
= <dc:title>
  <l:title-variant l:origin="#45ab">second additional title for searching</l:title-variant>
  </dc:title>
= <dc:title>
  <l:title-variant l:origin="#45ac">third additional title for searching</l:title-variant>
  </dc:title>
= <dc:identifier>
  <l:booknumber l:origin="#02">identification number</l:booknumber>
  </dc:identifier>
= <dc:identifier>
  <l:shelf-mark-dbsm l:origin="#03$s">call number DBSM</l:shelf-mark-dbsm>
  </dc:identifier>
= <dc:identifier>
  <l:shelf-mark-dnbl l:origin="#03a$s">call number DBL</l:shelf-mark-dnbl>
  </dc:identifier>
= <dc:identifier>
  <l:shelf-mark-dnbl l:origin="#03b$s">call number BöV</l:shelf-mark-dnbl>
  </dc:identifier>

```

```

= <dc:identifier>
  <l:shelf-mark-dnbl l:origin="#03c$s">call number RB</l:shelf-mark-dnbl>
  </dc:identifier>
= <dc:identifier>
  <l:shelf-mark-dnbl l:origin="#03d$s">call number UB Leipzig</l:shelf-mark-dnbl>
  </dc:identifier>
= <dc:identifier>
  <l:wbbb l:origin="#05">Wolfenbütteler Bibliographienummer</l:wbbb>
  </dc:identifier>
= <dc:identifier>
  <l:leif l:origin="#05a">Leif, Internat. Source Book, 1978, Bibliographienummer</l:leif>
  </dc:identifier>
= <dc:identifier>
  <l:bbb l:origin="#05b">BBB Band/Bibliographienummer</l:bbb>
  </dc:identifier>
= <dc:identifier>
  <l:pulsiano l:origin="#05c">Pulsiano, Checklist, Bibliographienummer</l:pulsiano>
  </dc:identifier>
= <dc:identifier>
  <l:isbn l:origin="#85">ISBN</l:isbn>
  </dc:identifier>
= <dc:identifier>
  <l:issn l:origin="#86">ISSN</l:issn>
  </dc:identifier>
  <dc:date>Year</dc:date>
= <dc:language>
  <l:languages-detailed l:origin="#07">language ger. ; function</l:languages-detailed>
  </dc:language>
= <dc:language>
  <l:languages-detailed l:origin="#07a">language en. ; function</l:languages-detailed>
  </dc:language>
= <dc:language>
  <l:languages-detailed l:origin="#07b">language franz. ; function</l:languages-detailed>
  </dc:language>
= <dc:language>
  <l:languages-detailed l:origin="#07c">language à. ; function</l:languages-detailed>
  </dc:language>
= <dc:format>
  <l:collation l:origin="#56">pages and illustrations</l:collation>
  </dc:format>
= <dc:format>
  <l:material-added l:origin="#57">Beilagen</l:material-added>
  </dc:format>
= <dc:format>
  <l:format l:origin="#58">Formatangabe</l:format>

```

```

    </dc:format>
  = <dc:publisher>
    <l:publisher l:origin="#54">Imprint (first location of publishing and
      publisher)</l:publisher>
    </dc:publisher>
  = <dc:publisher>
    <l:publisher l:origin="#54a">Imprint (second location of publishing and
      publisher)</l:publisher>
    </dc:publisher>
  = <dc:publisher>
    <l:publisher l:origin="#54b">Imprint (third location of publishing and
      publisher)</l:publisher>
    </dc:publisher>
  = <dc:publisher>
    <l:printer l:origin="#55aa">Imprint (first location of print and printer)</l:printer>
    </dc:publisher>
  = <dc:publisher>
    <l:printer l:origin="#55ab">Imprint (second location of print and printer)</l:printer>
    </dc:publisher>
  = <dc:publisher>
    <l:printer l:origin="#55ac">Imprint (third location of print and printer)</l:printer>
    </dc:publisher>
  = <dc:description>
    <l:work-included l:origin="#49">first work-included</l:work-included>
    </dc:description>
  = <dc:description>
    <l:work-included l:origin="#49a">second work-included</l:work-included>
    </dc:description>
  = <dc:description>
    <l:work-included l:origin="#49b">third work-included</l:work-included>
    </dc:description>
  = <dc:description>
    <l:edition-statement l:origin="#51">edition statement (including all persons and
      corporates)</l:edition-statement>
    </dc:description>
  = <dc:description>
    <l:note l:origin="#710">footnote (translation of the title in English)</l:note>
    </dc:description>
  = <dc:description>
    <l:note l:origin="#71A">footnote (free translation of the title in English (Paraphrase))</l:note>
    </dc:description>
  = <dc:description>
    <l:note l:origin="#71B">footnote (additional remarks about the subject in
      English)</l:note>
    </dc:description>

```

```

= <dc:description>
  <l:note l:origin="#71C">footnote (notes about lists of literature in English)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71D">footnote (remarks to languages and abstracts in English)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71E">footnote (Sonderformen in English)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71F">footnote (miscellaneous in English)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71G">footnote (Schriftbezeichnung in English)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71a">footnote (free translation of the title in German
    (Paraphrase))</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71b">footnote (additional remarks about the subject in German)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71c">footnote (notes about lists of literature in German)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71d">footnote (remarks to languages and abstracts in
    German)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71e">footnote (Sonderformen in German)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71f">footnote (miscellaneous in German)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#71g">footnote (Schriftbezeichnung in German)</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#72">Hochschulschriften-Vermerk</l:note>
  </dc:description>
= <dc:description>
  <l:note l:origin="#75">Beilage-Angabe bei Zeitschriften</l:note>
  </dc:description>
= <dc:description>

```

```

<l:note-title-translated l:origin="#71">footnote (translation of the title in German)</l:note-
title-translated>
  </dc:description>
= <dc:description>
  <l:note-title-earlier l:origin="#73">Abweichender Titel früherer Bde., Ausg. oder
  Werke</l:note-title-earlier>
  </dc:description>
= <dc:description>
  <l:note-title-later l:origin="#74">1. Abweichender Titel späterer Bde., Ausg. oder
  Werke</l:note-title-later>
  </dc:description>
= <dc:description>
  <l:note-title-later l:origin="#74a">2. Abweichender Titel späterer Bde., Ausg. oder
  Werke</l:note-title-later>
  </dc:description>
= <dc:description>
  <l:note-title-later l:origin="#74b">3. Abweichender Titel späterer Bde., Ausg. oder
  Werke</l:note-title-later>
  </dc:description>
= <dc:description>
  <l:note-volumes l:origin="#65">first volume</l:note-volumes>
  </dc:description>
= <dc:description>
  <l:note-volumes l:origin="#65a">second volume</l:note-volumes>
  </dc:description>
= <dc:description>
  <l:note-volumes l:origin="#65b">third volume</l:note-volumes>
  </dc:description>
= <dc:relation>
  <l:title-series l:origin="#611">first title series</l:title-series>
</dc:relation>
= <dc:relation>
  <l:title-series l:origin="#612">second title series</l:title-series>
  </dc:relation>
= <dc:relation>
  <l:title-series l:origin="#613">third title series</l:title-series>
</dc:relation>
= <dc:source>
  <l:issued-in l:origin="#80">Contained in (title of the book / periodical)</l:issued-in>
  /
  <l:issued-in-author l:origin="#81">Contained in (author in used form)</l:issued-in-author>
  .-
  <l:issued-in-edition l:origin="#83">Contained in (Auflagebezeichnung)</l:issued-in-edition>
  .-
  <l:issued-in-imprint l:origin="#84">Contained in (Imprint of the book / periodical

```



```

      (location, publisher, year, place of finding (pages)))</l:issued-in-imprint>
    </dc:source>
  = <dc:subject>
    <l:subject-personal l:origin="#30">first person (subject) (reference to master
      record)</l:subject-personal>
    </dc:subject>
  = <dc:subject>
    <l:subject-personal l:origin="#30a">second person (subject) (reference to master
      record)</l:subject-personal>
    </dc:subject>
  = <dc:subject>
    <l:subject-personal l:origin="#30b">third person (subject) (reference to master
      record)</l:subject-personal>
    </dc:subject>
  = <dc:subject>
    <l:subject-corporate l:origin="#31">first corporation (subject) (reference to master
      record)</l:subject-corporate>
    </dc:subject>
  = <dc:subject>
    <l:subject-corporate l:origin="#31a">second corporation (subject) (reference to master
      record)</l:subject-corporate>
    </dc:subject>
  = <dc:subject>
    <l:subject-corporate l:origin="#31b">third corporation (subject) (reference to master
      record)</l:subject-corporate>
    </dc:subject>
  = <dc:subject>
    <l:subject-place l:origin="#97">first location (subject) (reference to master
      record)</l:subject-place>
    </dc:subject>
  = <dc:subject>
    <l:subject-place l:origin="#97a">second location (subject) (reference to master
      record)</l:subject-place>
    </dc:subject>
  = <dc:subject>
    <l:subject-place l:origin="#97b">third location (subject) (reference to master
      record)</l:subject-place>
    </dc:subject>
  = <dc:subject>
    <l:subject-matter l:origin="#98">first subject matter (reference to master
      record)</l:subject-matter>
    </dc:subject>
  = <dc:subject>
    <l:subject-matter l:origin="#98a">second subject matter (reference to master
      record)</l:subject-matter>

```

```

    </dc:subject>
  = <dc:subject>
    <l:subject-matter l:origin="#98b">third subject matter (reference to master
      record)</l:subject-matter>
  </dc:subject>
</l:metadata>
= <l:classificationInfo>
  <l:class l:origin="#90">Classification: notation</l:class>
  = <l:place>
    <l:country l:origin="#90$l">country</l:country>
    <l:territory l:origin="#90$t">territory</l:territory>
    <l:city l:origin="#90$o">location</l:city>
    </l:place>
    <l:subject l:origin="#90$s">subject</l:subject>
    <l:person l:origin="#90$p">person</l:person>
  = <l:time>
    <l:term l:origin="#90$z">time</l:term>
    </l:time>
  </l:classificationInfo>
</l:bibrecord>
</l:bibliography>

```

Classification :

```

= <l:classification xmlns:ibp="ibp">
  = <ibp:entry id="y000000">
    <ibp:class>0. Notation</ibp:class>
    <ibp:term xml:lang="de">Überschrift deutsch</ibp:term>
    <ibp:term xml:lang="en">Überschrift englisch</ibp:term>
    <ibp:term xml:lang="fr">Überschrift französisch</ibp:term>
    <ibp:term xml:lang="dt">Überschrift niederländisch</ibp:term>
    <ibp:term xml:lang="it">Überschrift italienisch</ibp:term>
    <ibp:term xml:lang="es">Überschrift spanisch</ibp:term>
    <ibp:term xml:lang="sv">Überschrift schwedisch</ibp:term>
    <ibp:term xml:lang="fi">Überschrift finnisch</ibp:term>
    <ibp:term xml:lang="pl">Überschrift polnisch</ibp:term>
    <ibp:term xml:lang="pt">Überschrift portugiesisch</ibp:term>
    <ibp:annotation xml:lang="de">Annotation</ibp:annotation>
  </ibp:entry>
  = <ibp:entry id="y000001">
    <ibp:class>1.</ibp:class>
    <ibp:term xml:lang="de">Allgemeine Geschichte des Papiers</ibp:term>
    <ibp:term xml:lang="en">Paper history in general</ibp:term>
  </ibp:entry>
  = <ibp:entry id="y000101">
    <ibp:class>1.1.</ibp:class>

```

```

    <ibp:term xml:lang="de">Bibliographien, Kataloge und
      Literaturzusammenstellungen</ibp:term>
    <ibp:term xml:lang="en">Bibliographies and catalogues</ibp:term>
  </ibp:entry>
= <ibp:entry id="y010101">
  <ibp:class>1.1.1.</ibp:class>
  <ibp:term xml:lang="de">Bibliographien</ibp:term>
  <ibp:term xml:lang="en">Bibliographies</ibp:term>
</ibp:entry>
= <ibp:entry id="y1010101">
  <ibp:class>1.1.1.1.</ibp:class>
  <ibp:term xml:lang="de">Bibliographie der Bibliographien</ibp:term>
  <ibp:term xml:lang="en">Bibliography of bibliographies</ibp:term>
</ibp:entry>
= <ibp:entry id="y1010102">
  <ibp:class>1.1.1.2.</ibp:class>
  <ibp:term xml:lang="de">Papier allgemein</ibp:term>
  <ibp:term xml:lang="en">Paper in general</ibp:term>
</ibp:entry>
</l:classification>

```

Subjects:

```

<l:subjects>
= <l:authority id="s000000" type="personal">
  <l:identifier>s00000</l:identifier>
  <l:term type="descriptor">Person: surname, forename</l:term>
  <l:term type="use">Person: see under</l:term>
  <l:reference type="cf">Person: quod vide</l:reference>
</l:authority>
= <l:authority id="s030667" type="matter">
  <l:identifier>s30667</l:identifier>
  <l:term type="descriptor" xml:lang="de">Alaunpapier</l:term>
</l:authority>
= <l:authority id="s043096" type="matter">
  <l:identifier>s43096</l:identifier>
  <l:term type="descriptor" xml:lang="de">Zypresen</l:term>
</l:authority>
= <l:authority id="s045685" type="matter">
  <l:identifier>s45685</l:identifier>
  <l:term type="descriptor" xml:lang="de">Deskriptor deutsch</l:term>
  <l:term type="descriptor" xml:lang="en">Deskriptor englisch</l:term>
  <l:term type="descriptor" xml:lang="fr">Deskriptor französisch</l:term>
  <l:term type="descriptor" xml:lang="dt">Deskriptor niederländisch</l:term>
  <l:term type="descriptor" xml:lang="it">Deskriptor italienisch</l:term>
  <l:term type="descriptor" xml:lang="es">Deskriptor spanisch</l:term>

```

```

<l:term type="descriptor" xml:lang="sv">Deskriptor schwedisch</l:term>
<l:term type="descriptor" xml:lang="fi">Deskriptor finnisch</l:term>
<l:term type="descriptor" xml:lang="pl">Deskriptor polnisch</l:term>
<l:term type="descriptor" xml:lang="pt">Deskriptor portugiesisch</l:term>
<l:term type="use" xml:lang="de">erster Nichtdeskriptor deutsch</l:term>
<l:term type="use" xml:lang="de">zweiter Nichtdeskriptor deutsch</l:term>
<l:reference type="cf">Alaunpapier {ss}</l:reference>
<l:reference type="cf">Zypressen {ss}</l:reference>
</l:authority>
</l:subjects>

```

Relations:

```

= <l:xrefs>
= <l:authorityxref id="v000003" type="matter">
  <l:identifier>v00003</l:identifier>
  <l:term type="reftarget">Pappe {ss} \ einz. Sorten {sq} \ Buchbinderpappe {ss}</l:term>
  <l:term type="use" xml:lang="de">Pappe {ss} \ einz. Sorten {sq} \
    Buchbinderdeckel</l:term>
  <l:term type="use" xml:lang="de">Pappe {ss} \ einz. Sorten {sq} \ Bücherpappe</l:term>
  </l:authorityxref>
= <l:authorityxref id="v000004" type="matter">
  <l:identifier>v00004</l:identifier>
  <l:term type="reftarget">Papiersorten {ss} \ Sorten {sx} \ Tapetenrohpapier {ss}</l:term>
  <l:term type="use" xml:lang="de">Papiersorten {ss} \ Sorten {sx} \
    Duplextapetenpapier</l:term>
  </l:authorityxref>
= <l:authorityxref id="v000005" type="matter">
  <l:identifier>v00005</l:identifier>
  <l:term type="reftarget">Tagungen {ss} \ APV {sx}</l:term>
  <l:term type="use" xml:lang="de">Versammlungen \ APV, Darmstadt</l:term>
  </l:authorityxref>
</l:xrefs>
</l:pgwz>

```