# Guidelines for Subject Access

# in National Bibliographies

Prepared by the

## Working Group on Guidelines for Subject Access by National Bibliographic Agencies of the Classification and Indexing Section of IFLA

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# Preface

The Working Group on Guidelines for Subject Access by National Bibliographic Agencies has existed since 2003. Participants in this group included various providers of information — subject librarians, terminology managers, bibliography specialists, Library and Information Science educators and others. In 2005 we discussed the scope of our tasks and decided to recommend subject access for national bibliographies as part of the production of bibliographies in general. Now that many countries have begun to publish their national bibliographies online, the question of how to integrate the multitude of national online resources needs to be considered. How should they be catalogued, how should they be made accessible, and how can they be discovered by bibliography users? Because the Working Group on Guidelines for National Bibliographies of the IFLA Bibliography Section was concerned with exactly these ”new directions”, the Working Group decided to build our guidelines on their recommendations, *National Bibliographies in the Digital Age: Guidance and New Directions,* published in 2009. Our guidelines are intended as a supplement to the 2009 Guidelines.

We appeal to the producers of national bibliographies to provide subject access in national bibliographies. Users will benefit from having well-organised subject structures of classification systems and subject headings to expand their ways of reaching the resources they want.

The intended audience for these Guidelines are those in charge of the implementation of new national bibliographies, managers and staff of established agencies who are challenged by large amounts of publications and new technologies and media, readers of the IFLA Bibliography Section’s Guidelines, and all others interested in subject access strategies.

Many thanks to all colleagues who contributed to the success of this work, in particular to Marie Balíková, Pino Buizza, Charlene Chou, Ulrike Junger, Dorothy McGarry, Sirje Nilbe, Sandra K. Roe, Magdalena Svanberg, Barbara Tillett, and Maja Žumer. Your patience and valuable discussions are much appreciated.

Yvonne Jahns, Leipzig 2011

# 1. Introduction

## *1.1 Subject access in national bibliographies*

National bibliographies (hereafter NBs) are cumulated records of a nation's publishing output, and they are important information resources. An NB is "published regularly, and with the least possible delay. It is produced in accordance with international standards by the national bibliographic agency. Publication details and authorship are investigated and verified in detail" (Žumer 2009: 13).

The definition and mission of NBs are extensively described in numerous IFLA publications, most recently in *National Bibliographies in the Digital Age* (Žumer 2009). The 1998 recommendations by the International Conference on National Bibliographic Services (ICNBS) stressed the role of national bibliographic agencies and the importance of legal deposit.[1] One of the ICNBS extensions was "Reaffirming the value of legal deposit as a means of ensuring that the cultural and intellectual heritage and linguistic diversity of the state is preserved and made accessible for current and future users".[2]

National bibliographies do not only verify authors, titles and ISBNs, but also select the number of publications in a specific domain, identify changes in the publishing industry, and identify prominent topics or language pluralism. National bibliographies provide a key to a country's publication landscape, for example in science or in literature. Finally, we can even learn about the importance of books and other media within a society. "A current national bibliography is a mirror that reflects the culture of a country" (Bell 1998).

The ability to search for domains and subjects depends on the input of subject-oriented data in bibliographic records. National libraries (hereafter NLs) or national bibliographic agencies (hereafter NBAs) use various tools such as classification schemes, thesauri, and subject headings to provide subject-oriented data in their bibliographic databases. Most of them follow rules and principles. Ideally, complete and detailed subject indexing is applied to all catalogued documents. This means users can find disciplines or subject domains related to current publications, useful controlled terms for searching topics, and also related works, additional content information such as abstracts, and occasionally even fragments of the work or hyperlinks to tables of contents or the digital content. Realistically, this is impossible for most libraries.

In *Minimal Level Cataloging by National Bibliographic Agencies*, Lambrecht states, "In the real world of limited resources, difficult decisions must be made at all levels. A national bibliographic agency must determine what portion of its budget will be devoted to cataloguing. Those who administer the cataloguing operation must decide how to allocate resources among bibliographic description, subject analysis, assignment of access points, maintenance of authority files and other functions" (Lambrecht 1992). Since 1992, the financial pressure has increased, and publishing output has also increased. Development of sophisticated online databases and search engines like Google call into question the costly maintenance of library catalogues in general. Cataloguers are faced today with mass digitisation, automated indexing procedures, and social tagging — mechanisms that could cast doubt on the future of traditional cataloguing. Sometimes even more basic reasons, such as the absence of a proper strategy, also influence our bibliographic reality.

[1] The Final Recommendations of the International Conference on National Bibliographic Services, 1998, http://archive.ifla.org/VI/3/icnbs/fina.htm.
[2] ibid

Providing universal and all encompassing public access to information is one of the main activities of librarians. Subject access provides routes to information. NB users have diverse expectations of subject access which might include an overview of available literature, bibliographic citations, or direct access to resources. Subject access means providing information on what publications are about. When included in an NB, subject access also enables people to see which and how many publications exist in a specific field of knowledge and which topics are contained in a particular nation's publishing output. In this manner subject access is more than a representation of the intellectual content of collected and recorded resources. It also means revealing the reasons for adding resources to the NB. It is the key that allows the information seeker to understand the value of the information retrieved.

Subject access results from subject indexing and classification activities. Subject indexing is needed because publication titles and tables of contents do not always offer sufficient information; sometimes they even contain misleading terms. Subject indexing is the basis for finding relevant information successfully by offering synonym search terms and standardising natural, ambiguous language. It places the content of resources in relationship to other resources with similar content. Today's enormous amount of published information can be reduced and categorised using one of several available indexing methods. Thus, the publishing output becomes organised into more manageable units that are more readable, selectable, and that can be searched more precisely.

Controlled subject access to information objects in a library environment "deals with order, logic, objectivity, precise denotation, and consistency" (Balíková 2009, Gorman 2004).

## *1.2 IFLA's Working Group on Guidelines for Subject Access by National Bibliographic Agencies*

The Working Group on Guidelines for Subject Access by National Bibliographic Agencies was established by the Classification and Indexing Section of IFLA to analyse the question of subject access and to propose key elements for an indexing policy for national bibliographies. The mandate was to find common rules that are appropriate to nearly every NBA. On the other hand the Working Group (hereafter WG) also wants to guide established NBAs on how to improve their current provision of subject-oriented bibliographic data.

The IFLA Classification and Indexing Section has been concerned with all the issues addressed above for many years. The Section's Working Group on Principles Underlying Subject Heading Languages analysed the existing systems used in NBAs and verified principles (Lopes/Beall 1999). Since then broader surveys of subject indexing systems seemed desirable.

In 1999 a Working Group on Subject Access to Web Resources was proposed to monitor trends in the provision of subject access to electronic documents on the web.[3] The WG looked at overall structures of subject access and collected data from several countries into a database about subject access approaches used in digital collections. Despite many efforts it was finally considered unrealistic for IFLA to establish and maintain such a worldwide database. Libraries' environments change and the WG could only get glimpses of web archiving policies. However, not surprisingly, popular schemes and indexing languages like Dewey Decimal Classification (DDC), Universal Decimal Classification (UDC), and Medical Subject Headings (MeSH) were found to be used to enable subject retrieval.

[3] Working Group on Subject Access to Web Resources: *Subject Access Approaches used by Digital Collections and Information Directories*, http://archive.ifla.org/VII/s29/wgsaw.htm.

Following the Section's work in the 1990s, a *Survey on subject heading languages used in national libraries and bibliographies* was made by yet another of the Section's working groups. Questionnaires were sent out in 1995 and 1997, and the survey results were published in 2000 by Magda Heiner-Freiling. It revealed that the Library of Congress Subject Headings (LCSH) have been heavily used in national libraries outside of the United States. Many countries use a translation or adaptation of LCSH as their principle subject heading language.[4] The analysis also included information on the classification schemes used and whether or not libraries have produced a manual on the creation and application of subject headings. The predominant use of DDC as a classification scheme was recognised, as was a strong tendency to use an international classification system in addition to in-house classification schemes or subject headings.

Evaluating the results, Heiner-Freiling states, "Many developing countries started with their present system of subject cataloguing during the 1990s or had already begun between 1980 and 1998. The organisation of IFLA conferences, workshops and publications connected with topics like bibliographic control and the development of guidelines for subject authorities[5] probably influenced this process and helped to establish a system of recommendations and instructions for national bibliographies." (Heiner-Freiling 2000: 193). We hope that these Guidelines will further aid this process.

In 2009, IFLA's *Statement of International Cataloguing Principles (ICP)* was published. It is also available in multiple languages on the IFLA Website.[6] ICP was the result of five regional meetings worldwide to discuss bibliographic control among the rule makers and cataloguing experts of the world. The final principles were approved by 71 countries. The principles stressed the importance of subject access to bibliographic information and declared controlled subject terms and/or classification notations for the work to be essential access points (Tillett/Cristán 2009: 33).

The IFLA Study Group on the Functional Requirements for Bibliographic Records (FRBR) developed a conceptual model showing the entities and relationships of the bibliographic universe in 1997. In 2005 the IFLA Working Group on the Functional Requirements for Subject Authority Records (FRSAR) was formed to address subject authority data issues and to investigate the direct and indirect uses of subject authority data by a wide range of users. The 2010 published study[7] presents a framework that provides a commonly shared understanding of what subject authority data aim to provide, and the expectation of what such data should achieve in terms of answering user needs. When using subject authority data, a user may need to *find, identify*, and *select* a subject entity or entities. A user may also choose to *explore* a subject domain and its terminology. This is not only valid in a catalogue environment but also when looking at subject access in NBs. The FRSAD model shows the challenge of analysing aboutness, i.e., the relation between a work and its subject matter. We adhere to their understanding of subject here.[8]

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[4] Eighty-eight national libraries responded to the survey.

[5] *Guidelines for Subject Authority and Reference Entries*, 1993.

[6] *Statement of International Cataloguing Principles* by IFLA Cataloguing Section and IFLA Meetings of Experts on an International Cataloguing Code, http://www.ifla.org/en/publications/statement-of-international-cataloguing-principles.

[7] *Functional Requirements for Subject Authority Data (FRSAD): A Conceptual Model*, http://www.ifla.org/files/classification-and-indexing/functional-requirements-for-subject-authority-data/frsad-final-report.pdf.

[8] "The FRSAR Working Group is aware that some controlled vocabularies provide terminology to express other aspects of works in addition to subject (such as form, genre, and target audience of resources). While very important and the focus of many user queries, these aspects describe isness or what class the work belongs to based on form or genre (e.g., novel, play, poem, essay, biography, symphony, concerto, sonata, map, drawing, painting, photograph, etc.) rather than what the work is about. Some of these aspects are explicitly covered by the FRBR model, for example, 'form of work', 'intended audience' etc. as attributes of work. While the Group acknowledges that there are cases where a vocabulary provides terminology, or has been used, also for isness, the focus of the FRSAD model is on aboutness (the FRBR-defined relationship work 'has as subject…')", p. 10.

When IFLA's World Library and Information Congress took place in Berlin, Germany, in 2003, the Section's Standing Committee discussed how to ensure that appropriate subject access can be provided by NBAs to meet user needs. At the same time the Standing Committee of IFLA's Bibliography Section discussed how to respond to the growing significance of electronic media. Both sections established working groups investigating developments at NBAs or NLs and updating guidelines, helping to improve bibliographic services around the world. The aims and tasks of both working groups changed in the intervening years because of the growing importance of libraries' online environment (see Annex 1: History of the Working Group).

Following the work of the Bibliography Section, our main objectives were to

- Consider the national indexing policies of national libraries and national bibliographic agencies to evaluate what kind of access should be provided for the different groups of users (stakeholders) of national bibliographies,
- Give recommendations on the selection of documents dedicated to subject access and propose various levels of subject indexing, and
- Establish guidelines (minimal requirements) in addition to or completing the *Guidelines for National Bibliographies in the Electronic Age* ensuring that appropriate subject access is given by national bibliographic agencies to meet user needs.

Our task thus was operationally divided into three main parts. Besides definition of user groups and their needs, we discussed subject indexing policies and levels of application of subject access. The latter issue included investigating selection criteria to distinguish documents by provenance, target groups, genres, etc. These work areas built the outline of the present Guidelines and we will come back to each of them. The emphasis is on offering options for NBAs.[9]

We consulted previous IFLA publications, such as *An Annotated Guide to Current National Bibliographies* or *Minimal Level Cataloging by National Bibliographic Agencies* and we also looked at various IFLA surveys[10] and other international reports.[11]

Not surprisingly, Working Group discussions went in circles as the subject cataloguing world and publishing processes changed so much. It is becoming easier and easier to publish and in some fields, the amount of printed documents increases exponentially, while new publishing formats like online media appear.

We see an increasing number of similarities between NBs and NL catalogues. Their coverage is not identical. The way each is produced differs from country to country. On one hand many bibliographies are prepared on the basis of the library catalogue's records. On the other hand, the catalogues of some NLs serve as NBs, as the NLs own almost all their countries' publications.[12] As more bibliographic resources are accessible online, the distinction between catalogue and bibliography begins to blur for the user. It is recommended that NBs and NL catalogues are conceptualised as separate products, or views, so that the NB should be searchable in a separate way to keep its specificity.[13]

[9] Questions concerning national bibliographies are not limited to NBAs. With more formats coming up, e.g., for music or film, specialized complementary bodies are involved as well. The WG considers NBAs as coordinating bodies here.
[10] IFLA Publication listing: http://www.ifla.org/en/publications/53.
[11] E.g., European surveys, such as M22 Report on Subject Access Tools, http://www.theeuropeanlibrary.org/portal/organisation/cooperation/archive/edlproject/downloads/edlReportsatful3.doc.
[12] A 2004 research study by Vesna Injac in Europe indicated that a majority of NLs have online bibliographies as part of their online catalogues and not as separate databases (Injac 2010).
[13] See Danskin: Relationship of the NB to the NL catalogue (Žumer 2009: 38).

In 2002 the ICNBS recommended "given the availability of a variety of formats with which to distribute the national bibliography, national bibliographic services should use one or more as appropriate to meet the needs of their users" and "access points which satisfy the needs of the users".[14] By 2005 existing national bibliographies were changing. Many countries began publishing their national bibliographies online. At the same time it became clear that the multitude of national online resources could be considered and integrated in the description of a nation's publications output. Online bibliographies have many advantages. Web access allows regular updating processes, with world-wide and timely availability. Online national bibliographies allow us to meet special user needs, to respond to different types of users with personal profiles. Chapter 2 of these guidelines on users emphasises the importance we give to this.

NBAs have an important role in supporting the advance of human knowledge. "To reap the full benefits from bibliographic endeavours, it is imperative that bibliographic data be made open – that is available for anyone to use and re-use freely for any purpose." Following this Principle of Open Bibliographic Data[15] NBAs should place their NB data, including the applied controlled vocabularies, in the public domain without restriction and promote the maximum re-use possible.

Because of international interest in NBs, availability of data or at least of the bibliographies' interfaces in different languages is important and becomes more and more feasible due to the possibilities of multilingual thesauri or translating mechanisms in online versions.

It is of course well-known that there is a competition between national bibliographies and products like online bookshops, e.g., Amazon or other online catalogues, also from the book sellers (Žumer 2005). This should not discourage us — librarians' work is still valuable. The overlap with other services should guide us, as well as to cooperation and data exchange, so as to advertise our own products appropriately and regularly verify target groups and their needs (do studies!). We should answer the question of what the added value of an NB is, or which elements are worth providing and emphasizing.[16] The authoritative quality of descriptive and subject indexing by the NBA and the completeness of coverage are core elements.

## *1.3 Outline of the Guidelines*

The Guidelines concentrate on online national bibliographies. They will relate to printed ones only where necessary. Due to the development of information technology, printed bibliographies appear to be outdated. More and more NBAs prepare the records of their national imprint for the web, and we want to encourage others to do so in order to be more widely visible.[17]

However, these Guidelines may also be applied to printed bibliographies. The traditional form of current NBs (printed periodical issues), their cumulations, and retrospective bibliographies of the national publishing of the past, now are often accessible as a single source. However, the updating function of current bibliographies should be preserved to show what is new about a subject and/or in a domain.

[14] The Final Recommendations of the International Conference on National Bibliographic Services, http://archive.ifla.org/VI/3/icnbs/fina.htm.
[15] Open Bibliography Principles, http://openbiblio.net/principles/.
[16] Recommendation of the Bibliography Section's Guidelines: "NBA should seek opportunities to collaborate with other stakeholders to support and improve the national bibliography" (Žumer 2009: 18).
Cato/Haapamäki show good examples of cooperation with publishers from Finland and Sweden (Žumer 2009: 103).
[17] Recommendation of the Bibliography Section's Guidelines: "NBA are encouraged to exploit all available technology to support the creation and maintenance of the national bibliography" (Žumer 2009: 18).

The Bibliography Section's WG analysed users and use of national bibliographies and our WG looked deeply into the importance of bibliographies for those who are searching for subjects and supplemented their matrix of users and their requirements *see chapter 2.*

The WG looked at subject access tools — classification schemes, thesauri, and subject heading languages, and how they are applied. The main characteristics of indexing tools are described, *see chapter 3*. The use of subject headings and international classification schemes is highly recommended. Such schemes define concepts and the relationships between them. They help support user navigation and precise retrieval as mentioned above. Categorisation with controlled authorities ensures up-to-date, scientific, and standardised search vocabularies. Using international, widely accepted schemes facilitates sharing the effort of indexing and re-using data.

The functionalities for subject storing, organizing and retrieving, and some recommendations for user-friendly design of national bibliographies and their user interfaces appear in *chapter 4*, however, these are not guidelines on interface design or record displays[18].

There is nothing in our Guidelines that would recommend one and only one level of subject access for different kinds of documents, but we do ask: should publications from the publishers' book trade be treated differently from doctoral theses? Should printed books be treated differently from CD-ROM versions? Should fiction be treated differently than technical literature? This depends on many facts, described in *chapter 5*. A greater level of detail brings with it a greater cost. There is no standard percentage of indexed documents that every NBA should manage. Every NBA has to find a balance between time and expense, and retrieval, recall and precision. These Guidelines provide assistance in the selection of documents to be indexed.[19]

Nevertheless, we recommend that the entire current national output cumulated in the bibliography should be accessible by subject regardless of format[20] (printed books, audiovisual materials, web documents, etc.)[21], but we recognise that they cannot be treated with the same level of detail. Guidance is given in *chapter 5*.

Subject indexing will mean sustainable subject access in NBs. Subject data have to be available immediately after publication, preferably before publication, but also in later years for future users. The latter is not trivial, considering that today's online bibliographies are created in specific data formats that need to be converted for easy access in the years to come. Bibliographic data should therefore be stored in various formats and media types for security and preservation reasons.

Considering that future users search for today's publications or that today's users search for the publishing output of previous years, we can easily recognise how important it is to know how national bibliographies and their records are created, and which elements are searchable. Therefore transparent, easily available documentation of indexing policies is highly recommended, s*ee chapter 6.*

At nearly every meeting the Working Group discussed whether there is a need for new worldwide surveys to gather more data on subject indexing and access practices. Apart from the enormous effort of such tasks, especially when doing it multilingually, the WG's

[18] See for instance *IFLA Guidelines for Online Public Access Catalogue (OPAC) Displays*. Final Report May 2005. München: Saur, 2005.
[19] Recommendation of the Bibliography Section's Guideline: "The NBA should decide on different levels of cataloguing for different kinds of publications, based on the significance of the resource" (Žumer 2009: 18).
[20] This is also regardless of language or script.
[21] Following the recommendation of the Bibliography Section's Guidelines, that "The national bibliography should include all types of publications but not necessarily all publications. Exhaustiveness needs not to be an absolute goal" (Žumer 2009: 18).

feeling was that most of the results will be obsolete as soon as they are printed. Therefore, the WG ultimately decided to refer to existing analyses, web site information, and to some national examples to demonstrate the variety of practices. These examples, which further illustrate various levels of indexing and classification and which refer to all the recommendations are provided in *chapter 7.*

*Chapter 8* lists all the WG's recommendations.

# 2. Users of national bibliographies and subject access

## *2.1 Users of national bibliographies*

In *National Bibliographies in the Digital Age* (hereafter Bibliography Guidelines) different user groups and their contexts of use have been identified (Žumer 2009: 26f):

**End-users**

This is the most heterogeneous group ranging from library patrons to users who access the online national bibliography remotely to find and identify publications. Formal or informal groups and corporate bodies are included in this category. Numerous national libraries serve as research libraries and their NBs have an important role as a base for the infrastructure for the research community.
While end-users have not always been considered a target audience for the national bibliography, the national bibliography should be considered an important information resource for the general public because it gives access to a segment of the national cultural heritage.

**Librarians**

**Cataloguers** use national bibliographies for copy cataloguing or as support in cataloguing. In the latter case they look for similar bibliographic records and, probably even predominantly, for authority records (names, corporate bodies), but also for subject data.

**Acquisitions librarians** need national bibliographies to order publications, identify publishers and distributors, or determine publication status.[22]

**Collection development librarians** need national bibliographies to analyse available publications, select according to collection development criteria and to be made aware of future publications, e.g., through Cataloging in Publication (CIP) records.

**Reference librarians** use national bibliographies to help end-users, including library patrons, formal and informal groups, and corporate bodies.

In many countries because of the relationship between the national bibliography and legal (or voluntary) deposit, the data in national bibliographies can be used for legal deposit management by **legal deposit managers.**

**Preservation librarians** need the national bibliography to determine trends in publishing and plan preservation procedures.

National bibliographies are also used to provide an overview of materials for **management of digitisation by those managing such projects.**

[22] Here it is limited to the ordering task, not to collection management. Sometimes acquisition librarians and collection developers are the same persons.

**Book trade (including other media)**

National bibliographies enable **publishers** (commercial and non-commercial sector, including government and official publishers) to analyse the market and competition.

**Booksellers**' (including media vendors') needs are similar to those of collection development and acquisition librarians. In addition, booksellers may perform the function of reference librarians and possibly even refer customers to libraries for out-of-print publications.

National bibliographies are a resource for both groups to enrich their own bibliographic data.

**Agencies**

**Funding bodies** may use the national bibliography to assess the impact of existing funding for publishing or to plan future funding policies.

**Government agencies** that provide funding for the national bibliographic agency may use the national bibliography to assess the performance of the national bibliographic agency.

The national bibliography can be a source of data about the country's publishing output for **official statistics**.

**Rights management organisations**

National bibliographic data can be used to support the management of intellectual rights by **collecting societies**, as well as by **government bodies** for the management of lending rights remuneration.

**Software (distributed searching and harvesting tools)**

In addition to 'human' users of electronic national bibliographies, there is also computer software that directly accesses national bibliographic records, such as federated/distributed searching and harvesting tools. This poses additional technical requirements that have to be taken into account when planning an online national bibliography.

These are general user groups. There are other specific persons interested in subject access not listed, such as terminology managers, who use NBs as sources for terminology.

Not all contexts of use require subject access, but searching by subject is very important across user groups, as will be shown in the next paragraph.

## *2.2 Use of subject access in national bibliographies*

Within the FRSAD Working Group studies, different user groups were defined, too, and their tasks were identified. It was found that the users of subject authority data may need to *find, identify*, and *select* a subject entity or entities. A user may also choose to *explore* a subject domain and its terminology, as well as the relationships that exist

among the *themas*.[23] Even when subject access is limited to authority data, we can easily see all these same user tasks when looking at NB user groups and their needs. While *explore* is more necessary during cataloguing and metadata creation, some users need to explore relationships while navigating and browsing bibliographic descriptions. This depends on the user interface of the NB and its various functionalities (*see chapter 4*).

### *End-users*

End-users search national bibliographies in many contexts, but looking for publications on a specific topic is among the most important. For its success, the bibliographic record must contain information on subjects covered by the resource described and access points for those subjects must be provided. Research has repeatedly shown that controlled vocabularies help users to improve their subject searching.[24] Subject heading systems and thesauri have been the most common tools. End users should be able to browse subject authority information in order to explore the terminology and determine the appropriate level of specificity for their queries. Classification systems support the exploration of broader or narrower domains or areas of knowledge. Subject information shows or suggests the content or the domain or the point of view of a work, even when users have retrieved a bibliographic record by other access points or browsing. This is especially important when titles and other data are not explicit about the topic of a resource.

### *Subject cataloguing*

Indexing languages and subject authority records are produced and maintained by NBAs. Subject indexers in libraries use those tools that are applied to resources described in NBs for indexing purposes and also to apply to other resources. This is a traditional, but still an important, function even in times of cooperative cataloguing.

### *Re-use of bibliographic records*

Re-use of records includes downloading or exporting of batches of records into other databases and/or other computer applications (examples include CERL Hand Press Book database, *Index Translationum*, and library catalogues, particularly for retrospective conversion). In addition to in-library use, this function may also mean exporting bibliographic data for use in other communities such as publishing, for example as input for Books-in-Print. If the criteria for selecting the records include any thematic aspects, subject access must have been provided.

### *Collection development*

Each library needs to formulate its collection development policy to ensure that its collection develops in line with the mission of the library. The subject aspect of the collection is very important and librarians should be able to locate publications on topics of interest.

To be useful for collection development, the national bibliography has to offer subject access and analysis of different aspects of publications. Librarians in charge of collection development need national bibliographies (local and foreign) to analyse available publications and to select according to collection development criteria. For that they also need to be aware of future publications, e.g., by using Cataloguing-in-Publication (CIP) records. Sometimes the collection development is closely related to acquisitions.

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[23] *Functional Requirements for Subject Authority Data (FRSAD): A Conceptual Model*. http://www.ifla.org/files/classification-and-indexing/functional-requirements-for-subject-authority-data/frsad-final-report.pdf

[24] See for instance, Aitchinson, Jean and Alan Gilchrist: *Thesaurus Construction*. London: Aslib, 1987; Soergel, Dagobert: *Indexing and Retrieval Performance: the Logical Evidence*. In: *Journal of the American Society for Information Science*, 45 (1994) p. 589-599.

***Publisher analysis***

Publishers need to analyse the publications of their competitors on specified topics. National bibliographies need to support this functionality by enabling easy and transparent subject access.

***Statistics***

Official statistics cover different aspects of national published output. The thematic areas covered in the publications may be important foci of the analysis. For this, access on broad subject areas is essential.

***Funding bodies***

Funding bodies may want to analyse the published national input according to subjects covered to determine the effect of existing funding and to plan future support. Appropriate subject access is essential for this activity.

***Computer software***

When the national bibliography is exposed to computer software either for federated searching or harvesting, the parts of the bibliographic record supporting subject access must be provided.

The following is a modified version of the table of users from the Bibliography Section's Guidelines (Žumer 2009: 26).

| Use / user | Author | Title | Publisher | Date | Language / country | Genre / format | Subject | Identifier | Target audience |
|---|---|---|---|---|---|---|---|---|---|
| **End-users** | x | x | x | x | x | x | x | | |
| **Cataloguing** | x | x | | x | | | x[25] | x | |
| **Re-use** | x | x | x | x | x | x | x | | |
| **Collection development** | | | | x | x | x | x | | x |
| **Acquisitions** | x | x | | x | | | | x | |
| **Publisher analysis** | | | x | x | | x | x | | x |
| **Statistics** | | | | x | x | x | x | | x |
| **Rights management** | x | x | | x | | | | | |
| **Computer software** | x | x | | x | | | x | x | |

[25] The need for subject access from cataloguers was additionally recognised in this document. Cataloguing is understood here as the complete process including subject cataloguing.

## *2.3 Outcome of this review*

This review of different user contexts (which is by no means exhaustive) confirms that subject access to national bibliographies is essential. The more detailed analysis shows that different contexts require different approaches and levels of specificity in searching. While most users may be interested in current information, others may need retrospective data. While collection development, for example, may need to search very specific topics, funding bodies or those gathering statistics may require access to broader subject categories. Different browsing capabilities and even different knowledge organization systems may also be needed. These will be described and discussed in the following chapters.

National bibliographies are not only important reference sources for users, even more, the developments in some countries (e.g., Canada and Germany) show that publishers, academic communities, students, book jobbers, etc. are becoming integrated into the creation of subject analysis data for documents that form part of the NB.

# 3. Subject access standards and tools

The WG is not recommending any specific subject indexing language or method. These Guidelines are intended to be used with any method of providing adequate subject access to the users. Examples are given (*see chapter 7*) and a conviction expressed that traditional methods like assigning subject headings will not be obsolete in the future. The WG does recommend staying open-minded regarding new methods and exploring the rich potential of software applications and automated procedures. This potential should not be overestimated, because data processing of language is limited. To talk about subject searching, is to talk about semantics. Stable semantics is necessary for precise retrieval, and to find relevant information resources. Some general recommendations are proposed before analysing specific indexing systems:

**Recommendations**
**1 The NBA should play a leading role in the responsibility to develop, maintain and promote subject indexing rules and standards at the national level.**

**2 Consider international cooperation in choosing a national indexing tool. Adhere to international standards and share/use existing tools wherever possible.**

**3 Use controlled indexing, with both verbal indexing and classification.**

**4 Provide access to materials listed in the NB in the language(s) and script(s) of the country.**

## *3.1 Natural and controlled language indexing*

**Recommendation**
**5 Make controlled as well as uncontrolled indexing available to the users.**

Information retrieval systems that enable retrieval of resources on the basis of their subjects can be divided into two basic groups:

1) The first indexes a resource with the actual words used in the document and/or its title and/or its abstract. This group uses what is called uncontrolled or natural language indexing.
2) The other indexes a resource with terms assigned by the indexer using a controlled (or prescribed) indexing language. “Controlled indexing languages are indexing languages in which both the terms that are used to represent subjects, and the process whereby terms are assigned to particular documents, are controlled or executed by a person” (Rowley 1994). Controlled indexing languages include semantic relationships to connect concepts, and usually adopt syntactic rules to combine concepts. They can be divided into two groups:
   2a) The former uses prescribed words from a controlled vocabulary to express a work’s subject in a direct way.
   2b) The latter uses notations (numbers, letters or combinations) to express subject matter in a systematic way, based on classification schemes.

Controlled and uncontrolled subject indexing languages, classed and alphabetical file arrangements, all have advocates and their relative advantages and disadvantages have been studied for decades (Rowley 1994).[26]

[26] See also Fugmann, Robert: *The Complementarity of Natural and Controlled Languages in Indexing*, In: *Subject Indexing: Principles and Practices in the 90’s. Proceedings of the IFLA satellite meeting held in Lisbon, Portugal, 17-18 Aug. 1993*. München: Saur, 1995, p. 215-230.

Nowadays "the development of computer software and online catalogues has made possible the combination of different indexing languages and approaches in one database. This ability conforms to what seems to be the general consensus: controlled as well as uncontrolled systems (keyword access, full-text searching) should be available to the user, because they tend to complement each other" (Žumer 2009: 60). They can fit the different skills and aims of users in a variety of situations, offering the users more lead-in vocabulary to reach their desired information.

## *3.2 Features of controlled indexing languages*

A controlled indexing language "consists of a vocabulary (the terms used for indexing) and syntax (the rules for combination of terms)" (Broughton 2006: 210).

A controlled indexing vocabulary (Olson/Boll 2001):

- Authorises only one term or notation as the display form for any one concept
- Identifies synonyms for which the authorised term is used
- Controls variant spellings
- Establishes the size or scope of each concept
- Usually records explicitly the hierarchical and associative relations for each concept
- Explicitly identifies the distinctive concepts expressed by homonyms, by means of adjectives, qualifiers, or phrases and precise terminology.

A controlled indexing vocabulary based on an authority list is intended to aid indexing and searching, because (Olson/Boll 2001)

- It increases the probability that both the indexer and the searcher will express a particular concept in the same way
- It increases the probability that both the indexer and the searcher will be led to a desired topic by the syndetic features (such as "broader term", "narrower term", "related term")
- It increases the probability that the same term will be used by different indexers and ensures indexing consistency
- It helps searchers to focus their thoughts when they approach the system without a full and precise realisation of what information they need.

In a controlled indexing language, operating rules (syntax) are applied in combining concepts or terms, and in managing the construction of notations.
Syntax

- Gives consistency over time
- Allows browsing ordered lists (of subject headings)
- Improves clear understanding of the aboutness of works
- Makes the sequence of terms in a subject string predictible and easily searchable
- Forms the basis for organizing knowledge in classification schemes, beyond hierarchies.

The main disadvantage of controlled indexing languages is the high input costs. Indexing with a controlled vocabulary is labor-intensive. Construction and maintenance of a controlled vocabulary can be expensive, too. It is advisable to use indexing languages applied by other libraries within the country or that are shared with other NBAs in order to help to reduce costs and improve subject access across languages. Controlled indexing permits better retrieval results than natural language searching and offers valuable intellectual support to users. Therefore it is essential for NBs. Mann (2005) has argued that controlled subject headings and classification interact to provide subject access even if the searcher has no subject expertise.

Traditional subject analysis will certainly exist in the post-mass digitisation era because classification notations and subject headings "have the ability to consolidate the subject contents of lengthy text-based documents into simple bite-size statements" (Markey 2006).

## *3.3 Importance of standard indexing tools*

In a broad sense, a standard is "a system or tool which is widely adopted for use by a particular community" (Broughton 2006), and there are classification systems that are internationally adopted (see below).

There is no general standard for subject indexing, understood as "a published authority stating quality criteria for a product or the way in which some process shold be carried out" (Broughton 2006). International and national standards for thesaurus construction (see below) and the *Principles underlying subject heading languages (SHLs)*, that have the aim of assisting in developing subject heading languages, include many instructions that are also valuable for other kinds of indexing languages, mutatis mutandis.

The subject indexing tools adopted by an NBA should conform to these standards, in order to gain the advantages of uniform criteria and a level of high quality.

Standards are necessary to (Williamson 1995)

- Achieve an acceptable level of quality
- Reduce costs through minimizing duplication of work
- Ensure consistency and compatibility
- Ease search and retrieval difficulties
- Educate information professionals
- Aid in overcoming language barriers.

National indexing tools can not be excluded because of linguistic and cultural specificity and their often broad acceptance within the national library landscape to insure efficient re-use of data. When applied, they should follow standard criteria and grant multilingual access. A distinction between vocabulary on one hand and semantics and syntax on the other hand, could be set up. The latter are less dependent on languages and scripts (e.g., in hierarchical relations or in the persistence of the deep grammar under complex subjects). Standard guidelines should be shared for thorough analysis and useful semantic and syntactic relations. Vocabulary, on the contrary, is closely related to language. Translated terms often suffer an imperfect correspondence, for example for the different scope of their meaning.[27] Following standards here means good practices in creating thesauri in one's own language and in promoting a multilingual approach.

## *3.4 Verbal indexing schemes*

**Recommendation**
**6 Use a verbal indexing scheme covering all subjects and fields of knowledge.**

Verbal indexing schemes provide controlled access to the content of resources. They define concepts and relationships between concepts to support user navigation.

The verbal indexing schemes are in general of two kinds — subject heading lists and thesauri. This distinction has been conventional, particularly in English. Subject headings

[27] See for instance, Koh, Gertrude Soonja Lee: *Transferring Intended Messages of Subject Headings Exemplified in the list of Korean Subject Headings*, 2006, http://archive.ifla.org/IV/ifla72/papers/136-Koh-en.pdf

originate from library card catalogues; they are designed for pre-coordinated indexing of library collections often of universal scope. Thesauri have arisen from indexing and abstracting agencies at the dawn of the electronic bibliographic databases. They are designed for post-coordinated indexing mostly for scientific articles, reports and dissertations in restricted subject domains. In truth, the distinction between the two types has recently become somewhat blurred. Many subject heading systems have included some structural features characterizing thesauri, for example references of broader terms (BT), narrower terms (NT), and related terms (RT). On the other hand, many new thesauri have been designed as universal indexing tools for national bibliographies and library catalogues.[28]

The creation of a uniform indexing language is complicated by the wide range of subject areas that publications cover. Users come from different backgrounds and make different types of searches. Specialised thesauri, restricted to specific domains, have been developed over decades. Using and maintaining a universal indexing scheme, one that covers all fields of knowledge, cannot be underestimated by NBAs. The use or adaptation of an existing standard helps to reduce costs.

A subject indexing system may encompass both aspects. That is, including a subject heading list or thesaurus for vocabulary control and for semantic relations between terms, and syntactic rules for the construction of subject headings.[29]

### 3.4.1 Subject heading lists

There is no true international standard for constructing subject headings. Standardisation of controlled vocabularies in online catalogues is usually guaranteed by the common use of a standard subject heading list, accompanied by some kind of application manual. It is typical that these tools are compiled and maintained in national libraries that are responsible for indexing national publishing output. Many lists become "standards" in their own right through cooperative use and through their application in machine-readable records that are widely distributed to other libraries. The best example is Library of Congress Subject Headings (LCSH), which is widely used outside the United States, either in its original form or modified in some way. *See chapter 7* for national examples.

In 1999 the IFLA Section on Classification and Indexing published the document *Principles Underlying Subject Heading Languages (SHLs)*. The aims of the *Principles* are to (Lopes/Beall 1999):

- Facilitate subject access to information on an international level
- Assist in developing subject heading languages (SHLs) by stating what is meant by a good SHL and what desirable construction and application principles are for such languages
- Promote understanding of different SHLs by identifying commonalities underlying them and providing a structure for their comparative study
- Provide a theoretical rationale for particular standards or guidelines for SHL construction and application.

Part I in the principles provides background, definitions, and construction and application principles; part II includes a survey of each principle, with illustrating statements and examples taken from Canada, France, Germany, Iran, Norway, Poland, Portugal, Spain, and the USA.

[28] See for instance, Nuovo Soggettario, adopted by BNI, Bibliografia nazionale italiana: http://thes.bncf.firenze.sbn.it/.
[29] Both aspects can be found in the Nuovo Soggettario system, ibid.

The user principle states that the "vocabulary of a SHL should be chosen to reflect the current usage of the target audience for the SHL, whatever that may be." The ICP principle of common usage also suggests preferring terminology that is familiar to the users in their own languages and/or scripts. In connection with the NBs, serving a very wide variety of users, a crucial factor is the heterogeneous target audience. Some choices of terminology may be judged by public libraries as too learned and by university and specialised libraries as too general. Cross-references between "learned" and "ordinary" terms can help here.

### 3.4.2 Thesauri

Thesauri have a relatively long history in the development of standards (Krooks/Lancaster 1993). As early as 1967, the Committee on Scientific and Technical Information in the USA set up the first guidelines for thesaurus construction. In the seventies, the international bodies UNESCO and ISO published their first guidelines.[30] Until recently, the main international authorities in this field were ISO 2788:1986 *Documentation – Guidelines for the establishment and development of monolingual thesauri*[31] and ISO 5964:1985 Documentation – *Guidelines for the establishment and development of multilingual thesauri*[32].

A remarkable set of national standards for thesaurus construction was developed on this basis, for example in Great Britain, Germany, France, USA, Finland, etc. The most recent among them are the ANSI/NISO Z39.19-2005 *Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies*[33] and BS 8723-2:2005 *Structured Vocabularies for Information Retrieval. Guide. Thesauri*[34].

Lastly the first part of the new international standard was published: ISO 25964-1:2011 *Information and documentation – Thesauri and interoperability with other vocabularies – Part 1: Thesauri for information retrieval*. It is a merge and revision of both the preceeding ISO 2788 and ISO 5964, based on the British standard. The Part 2: Interoperability with other vocabularies is under development.[35]

In 2009 the IFLA Classification and Indexing Section published the document *Guidelines for Multilingual Thesauri*[36]. These Guidelines address two approaches in the development of multilingual thesauri, namely:

Building a new thesaurus from the bottom up:
a) Starting with one language and adding another language or languages
b) Starting with more than one language simultaneously

Combining existing thesauri:

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[30] *Guidelines for the Establishment of Monolingual Scientific and Technical Thesauri for Information Retrieval*. Paris: UNESCO 1970; ISO 2788:1974 *Guidelines for the Establishment and Development of Monolingual Thesauri*. Geneva: ISO, 1974.
[31] ISO 2788:1986 *Documentation – Guidelines for the Establishment and Development of Monolingual Thesauri*. 2nd ed., Geneva: ISO 1986.
[32] ISO 5964:1985 *Documentation – Guidelines for the Establishment and Development of Multilingual Thesauri*. Geneva: ISO, 1985.
[33] NISO Standards, http://www.niso.org/kst/reports/standards/.
[34] BS 8723-2:2005: *Structured Vocabularies for Information Retrieval. Guide. Thesauri*. http://www.techstreet.com/standards/BS/8723_2_2005?product_id=1249195.
[35] ISO 25964-1:2011 *Information and documentation -- Thesauri and interoperability with other vocabularies -- Part 1: Thesauri for information retrieval*, http://www.iso.org/iso/catalogue_detail.htm?csnumber=53657 and ISO/CD 25964-2 *Information and documentation -- Thesauri and interoperability with other vocabularies -- Part 2: Interoperability with other vocabularies*, http://www.iso.org/iso/catalogue_detail.htm?csnumber=53658.
[36] *Guidelines for Multilingual Thesauri*, The Hague: IFLA, 2009, http://archive.ifla.org/VII/s29/pubs/Profrep115.pdf

a) Merging two or more existing thesauri into a new multilingual thesaurus
b) Linking existing thesauri and subject heading lists to each other

For both approaches, the Guidelines deal with particular issues and problems encountered in multilingual thesauri construction and linking. A particular focus is given to the equivalence and structural problems where all elements of a thesaurus are explained using examples from existing thesauri (Landry 2009).

Standards provide rules for the four basic components of thesauri — vocabulary, structure, display and management. The problems relating to vocabulary include choice of terms, scope notes and definitions, decisions to use singular or plural, what classes of words may serve as descriptors, to what extent to allow compound terms or to factor them into two terms, how to deal with synonymy, polysemy and homography. The rules for the structure guide the organisation of terms by semantic relationships (the equivalence, hierarchical and associative relationships as the main ones). Thesaurus display must make terms and their relationships explicit and easily accessible. Guidelines for the management of thesauri usually include a short methodology of compilation, editorial matters, updating, etc.

As mentioned above, thesauri have been used primarily for indexing scientific documents or materials in specific fields that have their own vocabulary by agencies producing online databases. But there is no reason why they should not also be used in online catalogues and national bibliographies. It is possible to apply the basic principles of thesauri to any indexing language.

### 3.4.3 Pre-coordination and post-coordination

Pre-coordination means that, in a given system, the index terms for a compound subject are combined by the indexer at the time of indexing.

Post-coordination means that, in a given system, the index terms for a compound subject are brought together only at the point of search. [37]

Pre- and post-coordinate indexing languages differ in three respects (Svenonius 1995):

- Who performs the coordination
- When the coordination is performed
- How terms are coordinated.

Pros of pre-coordination are:

- Browsability (enables hierarchical displays for improved browsability)
- Better precision (improved relevance ranking, complex subjects can be expressed)
- Flexibility for system design (useful for browse and keyword searching; can be dis-assembled for post-coordinated systems)
- Contextuality (clearer preservation of context, identification of relationships of topics without ambiguity, standard order in the strings gives meaning to the words used, consistent structured displays suggest qualifiers or other devices to use to refine searches).

Cons of pre-coordination are:

- Complicated (rules for heading construction are not yet automated, not all strings are identified for automatic validation)

[37] Also see *Library of Congress Subject Headings: Pre- vs. Post-Coordination and Related Issues*, report prepared by the Cataloging Policy and Support Office, March 15, 2007, http://www.loc.gov/catdir/cpso/pre_vs_post.pdf. Includes Chan, Lois M.: *Thoughts on LCSH*, July 31, 2006; Joudrey, Daniel N. and Arlene G. Taylor: *LCSH Strings – some thoughts*, July 17, 2006; and an excerpt from Svenonius, Elaine: *Precoordination or Not in: The Intellectual Foundation of Information Organization*, Cambridge, Mass.: MIT Press 2000, p 188-192.

- Syntax is not well-understood by end-users
- Too expensive (requires manual indexing by well-trained humans, and humans are expensive; takes too long to train)
- Less flexible (not as valuable when browsing is not an option or not used, the syntax must be considered).

Pros of post-coordination are:

- Simplicity (easier to train humans)
- Speed in indexing
- Smaller vocabularies
- Less problems with hospitality (as any new subject needs no contextualization with the others)
- Flexibility (permits indexing on any level of exhaustivity, accomodates different searching patterns)
- Compatibility with other access tools using keyword approaches.

Cons of post-coordination are:

- Low precision (false associations are made)
- Poor contextuality (unclear relationships betwen the terms)
- Poor browsability (lack of hierarchies)
- Ambiguity for complex topics (use of keywords prevents connections for complex topics in a clear way).

Any pre-coordinated verbal index can also be searched in a post-coordinated way when individual words in pre-coordinated subject strings are searched, even in more than one string in the same bibliographic record. So some positive and negative aspects of post-coordination apply to pre-coordination, too (e.g., recall and precision).

## *3.5 Classification schemes*

**Recommendation**
**7 Use an international classification scheme.**

IFLA recommends the adoption of subject classification schemes for the arrangement of the national bibliography. Classification schemes may be directly related to the subject scheme or independent schemes.

Classification schemes have a role in aiding information retrieval in a network environment especially for providing browsing structures for NBs, library catalogues, and subject-based information gateways on the Internet.

The advantages of using classification schemes include a systematic overview of knowledge, with logically improved subject browsing facilities, making it easy to zoom in and out on specific subjects and the explicit relations between concepts. On an international level, classification schemes offer potential multilingual access and improved interoperability with other services. “There is increasing interest in the potential of classification schemes to identify concepts in a linguistically and culturally neutral way that has the added potential benefit of being manipulated by computer systems” (Žumer 2009: 43).

In order to assure a high quality, classification schemes need verbal access to notations by means of captions and indexes, regular updating to welcome new subjects, and devices to allow searching across subsequent revisions, particularly when notations have been changed. Classification schemes may be independent from any subject heading scheme, but, in an NB, relating classified notations to the adopted verbal indexing

scheme is a way to improve searching from different points of view and navigation throughout the bibliography.[38]

Classification schemes vary in scope and methodology, but can be categorised as international, national, or home-grown and for the covered domains as general and subject specific schemes. For use in NBs, universal, general classifications are needed. Domain specific classifications, if in use for special collections, should be coordinated with the general classification system applied. National or home-grown systems should be accompanied by an internationally well-known system. What type of scheme is used, and on which level of specificity, will depend upon the size and scope of the service being designed.[39]

General decimal classification schemes, such as the Dewey Decimal Classification (DDC) and the Universal Decimal Classification (UDC), are widely used in NBs. Their advantages include many of those enumerated above for classification schemes in general. Decimal systems have at the same time the disadvantage that the whole of knowledge and the subclasses of a class cannot always be organised into ten categories, making it difficult if not impossible to mention all necessary important subject categories in a similar way.

In the following, the main outlines of a few important classification schemes will be described. More schemes can be found in *chapter 7*.

## 3.5.1 Dewey Decimal Classification[40]

### *Characteristics*

The Dewey Decimal Classification (DDC), conceived by Melvil Dewey in 1873 and first published in 1876, is a general knowledge organization tool that is continuously revised to keep pace with knowledge. The system is further extended through number building, interoperable translations and association with categorised content, and mappings to other subject schemes. It has meaningful notation in universally recognised Arabic numerals, well-defined categories, well-developed hierarchies, and a rich network of relationships among topics.

The DDC is published in full and abridged editions by OCLC Online Computer Library Center, Inc. The abridged edition is a logical truncation of the notational and structural hierarchy of the corresponding full edition on which it is based, and is intended for general collections of 20 000 titles or less. Both editions are issued in print and electronic versions; the electronic versions are updated frequently and contain additional index entries and mapped vocabulary.

The DDC has been translated into over thirty languages. Since 1988, authorised translations of the full and abridged editions of the DDC have been published or are under way in Arabic, French, German, Greek, Hebrew, Icelandic, Indonesian, Italian, Norwegian, Russian, Spanish, Swedish, Turkish, and Vietnamese. The DDC Summaries, the top three levels of the DDC, have been translated into Afrikaans, Arabic, Chinese, Czech, French, German, Hebrew, Italian, Norwegian, Portuguese, Russian, Spanish, Swedish, and Vietnamese.

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[38] See for instance, Mapping new LCSH with DDC Numbers, http://www.oclc.org/dewey/updates/numbers/ or UDC-mappings to subject headings as described in Multilingual Subject Access to Catalogues of National Libraries (MSAC), http://archive.ifla.org/IV/ifla71/papers/044e-Balikova.pdf.

[39] The role of classification schemes in Internet resource description and discovery. Work Package 3 of Telematics for Research project DESIRE (RE 1004), http://www.ukoln.ac.uk/metadata/desire/classification/.

[40] Excerpted from "Introduction to the Dewey Decimal Classification", in Dewey, Melvil. *Dewey Decimal Classification and Relative Index.* Edition 23. Edited by Joan S. Mitchell, Julianne Beall, Rebecca Green, Giles Martin, and Michael Panzer, vol. 1, pp. xliii-xliv, lxxi. © 2011 OCLC Online Computer Library Center, Inc. Reprinted with permission.

Suggestions for updates come to the editorial team from translation teams, national libraries, national library associations, Dewey users, and other sources around the world. The editors prepare proposed schedule revisions and expansions, and forward the proposals to the Decimal Classification Editorial Policy Committee (EPC) for review and recommended action.

***Availability***

Information about versions, uses, and applications of the DDC is available at the Dewey web site (http://www.oclc.org/dewey/) and *025.431: The Dewey blog* (http://ddc.typepad.com/). Linked DDC data are available at dewey.info (http://dewey.info/); the experimental web service currently includes the DDC Summaries in eleven languages, and assignable numbers accompanied by captions from the English, Italian, and Vietnamese DDC Abridged Edition 14 data sets.

***Users***

Libraries in more than 138 countries, including libraries of every type, use the DDC to organise and provide access to their collections. DDC numbers are featured in the national bibliographies of more than sixty countries. Dewey is also used in a variety of applications on the web in support of categorisation, browsing, and retrieval.

## 3.5.2 Universal Decimal Classification

***Characteristics***[41]

The Universal Decimal Classification (UDC) goes back to the end of the 19th century when two Belgian lawyers, Paul Otlet and Henri La Fontaine, commenced on an ambitious project to create a comprehensive systematic listing of everything that has been published since the invention of printing. They needed an appropriate bibliographic classification, and were attracted to Dewey's Decimal classification. In agreement with Dewey they expanded Dewey's scheme and added a number of synthetic devices and auxiliary tables. The first complete edition was published in French between 1905 and 1907.

The UDC is an aspect, hierarchical and synthetic classification. The scheme consists of the systematically arranged main tables and auxiliary tables for concepts that may appear in all or several disciplines. The notation consists of arabic numerals and several symbols.

The International Federation for Information and Documentation (FID) managed the UDC from creation until the 1980s. In 1991, a new body — UDC Consortium (UDCC) was established by FID and the publishers of the Dutch, English, French, Japanese and Spanish editions. Current UDCC members are AENOR (Spain), BSI (UK), CEFAL (Belgium), VINITI (Russia) and the National Library of the Czech Republic. Each of the members has the exclusive right to publish UDC in the vernacular language.

The authoritative version of the UDC is the Master Reference File (MRF) which contains about 68 000 classes. The MRF database acts as a working tool for the UDC Consortium and as the definitive source on which publishers base their publications or services.

***Availability***

The list of available UDC publications can be found on the UDCC website at http://www.udcc.org/pub.htm. The UDC Summary at the same website provides a selection of about 2000 classes from the whole scheme. The UDC Summary is a

[41] Based on McIlwaine, Ia C.: *The Universal Decimal Classification: a guide to its use*. Revised edition. The Hague : UDC Consortium, 2007.

multilingual database (currently in 45 languages) and will be kept aligned with the UDC MRF.

***Users***

UDC is used in bibliographic services including NBAs, documentation centres and libraries in about 130 countries world-wide, but most heavily in Europe. Editions exist in at least 39 languages. More information about users and editions can be found at http://www.udcc.org/use.htm.

### 3.5.3 Library of Congress Classification

***Characteristics***[42]

The Library of Congress Classification (LCC) began with the system invented by Thomas Jefferson for his own library, which was subsequently purchased by Congress. Although this system was used only to the mid-19th century for the wide-ranging Library of Congress collections, its division of knowledge into three principal classes, history, philosophy and fine arts (poesy), was preserved to the end of the 19th century. Beginning in 1901, a team of subject experts developed the LCC as a modern systematic subject organisation for the vast and rapidly growing collections, encyclopedic in character, including all of the materials received through the US copyright deposit as well as materials received and purchased from around the world. In its current form, the LCC consists of 21 main classes in 41 individual schedules and tables. Their expansion is based on the principle of "literary warrant," thus reflecting in content and terminology"literary reality." A rigorous weekly editorial process provides continuous revision and maintenance of the individual schedules.

From 1991—1996 the schedules were converted to the MARC Classification Format. The web product for LCC is *Classification Web*, which incorporates not only the LCC, but also correlations with LCSH, the Dewey Decimal Classification, and the National Library of Medicine's classification system.

***Availability***

The schedules are available from the Cataloging Distribution Service at http://www.loc.gov/cds as a print product or as the web tool, Classification Web. The LC Web site, http://loc.gov/aba/cataloging/classification/, includes the weekly lists of updates, and further details about acquiring the schedules in print and online.

***Users***

The system was designed for very large libraries and is the predominant system used by academic and research libraries throughout the United States and Canada. It is also used in NBs such as in Uruguay and Venezuela.

## *3.6 Automatic indexing*

Human indexing is done by cataloguers who use their knowledge and expertise to determine the aboutness of works. Training and maintaining an indexer's high level of expertise is time and cost-intensive, and human resources are limited. Because of the growing number of publications, it can be appropriate to use automatic or semi-automatic indexing procedures.

Automatic indexing refers to indexing using computer algorithms. Some techniques are fully automated, while others are semi-automatic or machine-aided. Automatic indexing may be based on terms and structures in documents alone, or it may be based on information about user preferences or external semantic resources (e.g., thesauri). In

[42] Based on Chan, Lois Mai: *Library of Congress Classification in a New Setting: Beyond Shelfmarks*. Washington, D.C., Library of Congress, Classification Distribution Service, 2001.

the latter case the quality of the vocabulary used as a basis for indexing is of crucial importance for automatic indexing results.[43] Some techniques disregard structures in the texts, such as those based on vector space models. Other approaches utilise information about structures, for example, recent approaches in XML-based retrieval.[44] This is by nature more exhaustive than human indexing, as it considers most or all words as potential indicators of content. Automatic indexing may also be performed on non-text resources, e.g., images or music.

The WG clearly recommends semantic-based indexing, which also occurs in an automatic environment. The use of traditional semantic tools helps to reduce information confusion by offering semantic structures. "Both people and computer systems need semantics to make sense of information once it is found" (Soergel 2009).

Results of those automated procedures help searchers to find information, but usually they fail to find the same information that would have found with human indexing (Shields 2005). However, research comparing retrieval based on human vs. machine indexing shows that users find them more or less equally effective (Anderson/Pérez-Carballo 2001: 233). The main problems with machine-generated indexes are that in many cases they have too low precision. Recall may also be a problem because of synonymy, as well as the use of too broad or too narrow terms. It was found that the basic problems are those "related to meanings and semantic relations" (Hjørland 2007).

Present automatic techniques mainly provide a rough categorisation, or broad subject categories that can be helpful for giving access, especially to web resources. For the past twenty years, several projects of automatic indexing and classification have taken place;[45] improvements and further experiments are under way. The exponential growth of web resources puts automatic procedures on the forefront of reasearch in several different communities (Ardö 2009).

"All documents can receive inexpensive, relatively effective automatic, machine-based analysis and indexing. For important documents, automatic indexing can be augmented by human indexing, to make these documents even more accessible to a broader clientele" (Anderson/Pérez-Carballo 2001: 270). If an NBA wants to allocate human subject analysis expertise in a cost-effective manner,[46] the NBA can decide to devote human analysis only to selected publications. In highly selective NBs with a small amount of publications, it will probably make sense to apply human indexing to all documents. As the NB database grows larger, human indexing can be invested in selected groups of documents. The WG will come back to this decision process in *chapter 5*. The faster a collection grows, the more difficult it is to give subject access to *all* publications and to treat them equally, and so more selectivity is needed. The enormous number of web resources requires new workflows and faster traditional indexing; computer-supported procedures should help indexers (Svensson/Jahns 2010).

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[43] For supervising automatic indexing processes, see for instance http://www.kaiec.org/,

[44] Hjørland, Birger: *Automatic indexing*. http://www.iva.dk/bh/lifeboat_ko/CONCEPTS/automatic_indexing.htm

[45] See for instance, the Indexing Initiative project at the National Library of Medicine: http://ii.nlm.nih.gov/semiauto.shtml;
See for automated classification large-scale projects conducted in the 1990s by the Universities of Lund, Wolverhampton and Oldenburg, and by OCLC (Dublin, OH), e.g. Koch/Vizine-Goetz: *Automatic classification and content navigation support of Web services: DESIRE II cooperates with OCLC*;
Yi, Kwan: *Challenges in automated classification using library classification schemes*, online available at http://archive.ifla.org/IV/ifla72/papers/097-Yi-en.pdf;
Moeller, G. et al: *Automatic classification of the World-Wide Web using UDC*. In: *Proceedings of the GfKl*. Heidelberg: Springer 1999;
Larson, Ray L.: *Experiments in automatic Library of Congress Classification*. In: *Journal of the American Society for Information Science*. 43 (1992), p.130-148.
CADIAL project http://www.cadial.org/index.php?

[46] Automatic indexing is not inexpensive at all. NBAs have to be aware of the costs of information technology development and support.

Most successful uses of automatic indexing can be reached in association with some kind of semantic tools, like topic maps, in order to reduce the vagueness of speech that is not formalised and the uncertainty of counting and weighting words, and to add the cognitive value of semantics.

Before implementing elaborate artificial intelligence-procedures, automatic media processing, that is the reuse of data from authors, publishers, or other libraries and catalogues, is a first step. This can be done automatically by loading structured data from different formats and using mappings. A second step is using metadata automatically generated or extracted from digital publications themselves. Also, intellectual subject data of different versions of works, e.g. of corresponding print and online versions, can be copied automatically from one descriptive record to another.[47]

## *3.7 Other subject access tools*

**Recommendation:**
**8 Provide content enriched data as a supplement to other subject access tools.**

Enriched cataloguing is considered helpful to users in finding and selecting library materials and in understanding the information they offer. For almost three decades, librarians have advocated for the enhancement of online library catalogue records. For online bibliographies this means users are aided in the discovery process without leaving the bibliography. Thus, retrieval becomes more effective. Many libraries have followed the lead of online book sellers by adding informative content for current publications. Content enriched data go beyond the subject of a bibliographic resource to include components such as

- Contents notes
- Summaries / Abstracts
- Tables of contents (TOCs)
- Sample text and
- Other publication-related information such as reviews.

Abstracting should follow standard criteria to guarantee subject access quality.[48] An abstract clearly explaining the aboutness of a work, without added interpretation or criticism, shows what one can expect from the work. As a source for searching, an abstract provides many terms, but suffers the defects of uncontrolled vocabulary.

Tables of contents and summaries help users understand the subject matter of the resources described. Many of these data can be re-used by NBAs from book sellers, publishers or authors. Specifically, TOCs expand the title of a resource to all the titles of its parts, which is often very important in ascertaining all the subjects. Otherwise users should be aware that searching on digitised TOCs is free-text searching.

Some of the most important components of “library 2.0” include increased user participation. Social tagging (also known as "folksonomic tagging" or "social

[47] In a strong FRBRized bibliographic system any new manifestation of a work is already indexed by the work record.
[48] See for instance, *ANSI/NISO Z39.14 - Guidelines for Abstracts*, http://www.niso.org/kst/reports/standards?step=2&gid=None&project_key%3Austring%3Aiso-8859-1=5944461cb4a1e365ad1688ec6f6c199c9d90ee71

bookmarking")[49] can be offered as a collaborative tool that enables NB visitors to use their own terminology to index documents.[50] User tags could suggest topics and terms to be used in subject indexing or to be added as access terms, under control of the NB. Social, collaborative indexing without linguistic control should be avoided, because it is contrary to the authoritative function of the NB and the required quality of its data.

One of these tools can be chosen depending on the type or genre of the resources. For example, better searching of doctoral theses can be achieved when abstracts and tables of content are included.[51] Electronic TOCs are also an effective way to identify journal articles and conference papers.

The provision of online content itself is also recommended, including hyper-links to freely accessible e-journals or e-books. Sometimes excerpts or first paragraphs are available. The availability of full-text resources together with their records is very useful as it removes any problem of obtaining the resource.

For most enriched data, it is important that the linked content is also searchable to improve access. Access points can be provided through automatic indexing. The simplest automatic indexing is based on providing access to every occurence of every word. This can be presented as free-text or full-text retrieval.

Full-text searching enables users to find even minor subjects through the words used to describe them, any concept through the terms used to denote it, but, on the reverse side, this means that any concept is recalled even if it is mentioned only in passing, without saying anything particular about it, and any different meaning of a word is recalled, without any distinction. In order to lead users to the search that is appropriate to their needs, this kind of search should be clearly dsitinct from record retrieval that remains the more specific task of an NB.

[49] For more information on social tagging see Furner, Jonathan: *User Tagging of Library Resources: Toward a Framework for System Evaluation*, 2007, http://archive.ifla.org/IV/ifla73/papers/157-Furner-en.pdf; Chan, Lois Mai: *Social Bookmarking and Subject Indexing*. (Landry 2011: 127); Aagaard, Harriet: *Social Indexing at the Stockholm Public Library* (Landry 2011: 143).

[50] For instance, Library and Archives Canada has experimented with several projects designed to capitalise on the knowledge of individual users, see McKeen 2008.

[51] Guidelines for Cataloguing Theses by the Australian National Library. http://www.nla.gov.au/librariesaustralia/training-support/manuals-guides/theses-guid/

# 4. Functionality and interface of national bibliographies

## *4.1 Presentation of national bibliographies*

Subject access tools are both cataloguers' and users' tools for exploring their topics of interest. Successful subject retrieval is complex and depends substantially on the applied indexing tools, described in *chapter 3.*

The development of NB functionality and presentation is closely related to library catalogues. Only essential issues representing subject data are considered in this chapter, while other specific aspects of catalogue design, common to any kind of OPAC, are not addressed. Nevertheless, subject access is part of the whole information service provided by the NB; this must be considered.

Whether an NBA produces an online version only, or also a printed bibliography, it is important to give structured subject access to the collection.

In addition to traditional ways of accessing bibliographic data, many NBAs have investigated new access and distribution channels. Those new services are often focused on researchers and students who need to be kept up-to-date with new publications in their areas of research.

There are many opportunities for providing subject access depending on the format of the NB, print, CD-ROM, online, etc., or as part of the national library catalogue with a labelled user format, or as an html document, using ISBD format, etc. Numerous countries have special bibliographic databases. Others have cumulated historical periods and published retrospective bibliographies. Special requirements are needed for every type of bibliography.

To meet a variety of user needs it is recommended that different presentation displays, different conditions of access and different layers or levels of presentation be utilised.

The needs of the different user groups, explained in *chapter 2*, and their requirements vary greatly. Furthermore, functionality and interface recommendations depend on the different user tasks. As already shown above, users want either to find or identify subject entities or works by subject, to select entities or to obtain additional information about the subject or the bibliographic record or the resource itself, and they also want to explore different relationships.

The NBAs' decisions for different indexing levels (*see chapter 5*) affect search functionalities. Low levels reduce search possibilities. The more homogeneously and consistently the NB is indexed, the easier it will be to provide access to the collection by subject.

Structuring and ordering the NB by subjects is very common and proven for decades. It gains importance for online access, providing subject categories as hyper-links or navigation facets.
The display of subject data in NB records is another essential feature, but in today's online library environment, many more services are possible and desirable. Retrieval tools such as Google have changed users' expectations in accessing information. Subject data today is also a medium to model a users' own information environment. For instance, inclusion of RSS-feeds can be a powerful aid to users. This enables them to subscribe to a service that saves a search query and periodically runs it to send the

query results. This enables customers to receive updates on recent publications using custom-made subject queries.

"The role of classification and indexing is crucial to our continuing development and systems which take advantage of the evolving ways to represent knowledge structures at the user interface will ensure a higher quality and more rewarding experience in our life-long learning" (Pollitt 1997).

For subject access, most next-generation catalogues or discovery tools have already included certain features of Web 2.0, such as tagging, exposing controlled vocabularies to users, and enabling a user to add comments on certain terms, in addition to providing certain powerful features, e.g. browsing with faceted results and "similar items" resource suggestions. With the rapid development of mobile phones, mobile catalogue interfaces are becoming widely used and present the most important information in a small interface - a shrinking OPAC display with the default screen for basic information only.

In addition to Web 2.0, this chapter will also consider the factors concerning the development of the Semantic Web, a part of Web 3.0 development, such as semantic tagging and RDF. Because of globalisation and internet technology, interoperability and compatibility are crucial for infrastructure planning and design. According to the report of the IFLA Namespaces Task Group, there is a need for dereferencing services, to get a user from the coded bibliographic description to a complete human-readable description or to the digital resource itself. "A basic service might return the RDF/XML associated with a URL, and a more advanced service might carry out an extraction specified by the client, for example returning the RDF/XML for a specific language or 'property' such as the scope note." [52]

With regards to data format, standardised formats are recommended instead of homemade solutions for bibliographic data. There are no special technical conditions for subject data only. It should be noted that Semantic web data models like SKOS (Simple Knowledge Organization System) provide schemas for sharing and linking subject headings and classification systems.[53]

## *4.2 General recommendations*

Subject access in NBs includes three aspects — a presentation of data sorted by subjects, information on the subject of works, and searching capabilities for subjects.

These recommendations on functionality and interface are valid for both printed bibliographies and online catalogues/bibliographic databases:

**Recommendations**

**9 Display and browse NB records by subjects, using either broad categories or top classification hierarchies.**

Using the potential of knowledge structures and grouping similar resources into clusters helps users to find relevant publications easily and quickly and to select domain specific data sets.

**10 Display headings and classification notations in the bibliographic records.**

This gives users a key to what the works are about and helps to evaluate the relevance of the resources. It is a starting point for further subject searching.

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[52] The Report of IFLA Namespaces Task Group, March 2010, http://www.ifla.org/files/classification-and-indexing/ifla-namespaces-requirements-options-report_corrected.pdf

[53] SKOS Simple Knowledge Organization System Reference. W3C Recommendation 18 August 2009, http://www.w3.org/TR/skos-reference/.

**11 Provide full and user-friendly subject search functionalities.**
All the knowledge contained or implied in the indexes should be available to the users. In printed bibliographies this can be realised by subject indexes. For online bibliographies the whole potential of catalogue search functionalities can be used.

Some of the following recommendations are not under the direct control of NBAs. Search strategies and displays depend on the software systems. NBAs should pay heed to these features when selecting catalogue technology.

## *4.3 Online catalogue functionalities*

Before designing an interface for subject access, the NBA needs to decide what functionalities should be included. Below is the list of recommendations particularly intended for subject access while generic catalogue functionalities such as federated searching, direct access to electronic contents, manipulation of query results, and others, are taken for granted.

***Display preferred headings and related terms clearly and easily***
The function of controlled vocabularies is fulfilled when a user can search for variant terms, and find preferred headings and related terms. When searching subject strings by words, the strings retrieved should be shown in a first step, to enable users to select the relevant strings, before seeing the related resource in a second step.
Links to works on the same subject are also highly recommended.

***Provide natural language and key-word searching***
It is crucial for users to be able to search by natural languages, so the system should give an option to search by key-words to augment searching by controlled vocabularies. If there are no hits, the system should provide "similar items" suggestions such as "Did you mean…?".

***Provide controlled vocabularies, taxonomies, ontologies and meta-thesaur*i**
Searches are more precise and sufficient, if controlled vocabularies are available in the database. Selection of controlled terms from vocabulary lists/indexes enables users to search for precise terms. In addition, the search would be more powerful if it also includes "taxonomy" with hierarchy, "ontology" with a lot of relationships, and a "meta-thesaurus", a collection of all the above.[54] It is very useful for researchers to see the results returned with related terms within a hierarchy or with variant forms of terms.
Records should carry links to the authority records.
For classifications there should also be access to notations, captions, index entries, and views on the scheme that assist users to focus on the wanted subject and its neighbourhood.

***Multilingual search capability***
As a repository of all the publications of a country, the NB is the point of reference also for international users. Their information requirements can be supported by multilingual access. The recommended capabilities consist of searching and displaying both Roman and non-Roman scripts. The function of mapping and linking with other languages' thesauri is highly recommended. The Virtual International Authority File (VIAF)[55] is a crucial source for names used for subject access. The European MACS (Multilingual Access to Subjects) project[56] is an excellent model to search the same subject in different languages.

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[54] White, Jabin: *Ontologies and User Needs in Publishing*, - presented at the NISO/BISG 4th Annual Forum during the 2010 ALA Annual Conference, http://www.niso.org/news/events/2010/ala2010/nisobisgforum/whiteNISOBISG2010.pdf.
[55] VIAF - Virtual International Authority File: http://viaf.org/
[56] MACS – Multilingual Access by Subject Open Forum: https://macs.hoppie.nl.

The key challenge would be how to solve Unicode problems for certain languages and/or scripts.

## 4.4 Online catalogue interfaces

***Show preferred headings and the network of related terms***
It is significant for the interface design to include the display of preferred headings from variant terms, as well as relationships of terms (e.g., broader, narrower, and related terms). It is recommended to display the properties for describing subject relationships, e.g., “broader term”, “scope note”, “use for”, “top term”, “related term” (Garshol 2004).

***Provide a layered interface with options to operate at different levels of granularity***
It is recommended to offer, in addition to a default interface with a simple search box, one or more other layers proposing advanced search options that include more precise subject searching or the ability to refine searches with Boolean logic. If search results are displayed with added lists of attributes of the retrieved resources that can be used to refine the search (sometimes called “faceted search”), it is recommended to include lists of classification notations and subject terms. Utilise knowledge structure hierarchies for both presentation of results and query specifications (see 4.5).

***Offer features for users’ input***
Features could include tagging, exposing controlled vocabularies to users, ability to add comments on terms or reviews to a record, RSS feeds and creation of citations by subject categories, etc. Users should be able to distinguish users’ input from the NB’s input.

***Offer multilingual and multi-script options***
The options should include user’s choice for languages of catalogue interfaces. It would allow users to navigate more effectively, if they can toggle to languages and scripts they prefer.

## 4.5 Online catalogue queries

***Query options***
The options should include simple and advanced searches. Stem searches on subject headings that have subdivisions can make information more retrievable.

***Modify query results***
The user should be able to narrow the results of a search by requiring various aspects. In addition to format, author, language, genre, year and place of publication, the user should be able to narrow a search by subject aspects, such as topic, geographic region and time or to choose a disciplinary point of view by classified notations. If there are no hits, the user should be able to modify the search strategy by using search terms suggested by the system.

## 4.6 Other catalogue features

### *Front-end features*

- Help screens regarding subject access
- Tutorials on subject access
- Options for topic maps / Visual presentation of subject relationships[57]
- Translation software or tools for subject access
- Dictionaries: language options for terms
- Subscription to RSS feeds based on subject queries

[57] Such discovery layers can be found for instance at http://www.serialssolutions.com/aquabrowser/.

# 5. Application scenarios (indexing / access levels)

**Recommendation**
**12 Decide on different levels of subject cataloguing for different kinds of publications, based on the significance of the resource. Define and publish pragmatic selection criteria.**

Just as an NBA would be overwhelmed if it did not exercise judicious selection of documents covered by the bibliography,[58] it must also select documents not to be indexed, or indexed only rudimentarily. Currently in many NBs "there has been a certain tension between including data in the bibliographic records which potentially serves a variety of useful purposes, and the need not to make the records too complex if the bibliography is to keep up with the publishing output of the nation" (Haddad 1999). New digital formats and the growth of web resources have made the selection decision more complicated. Even if the national output of electronic resources is varying, every NBA should find a framework for decision here. The solution is not in weighing electronic and traditional resources against each other because it is an issue of content, not of favouring any format or of balancing all. Nevertheless, the higher or lower accessibility of the different media types can justify less or more complete indexing: if users can browse through web resources, they do not need as much description as for other publications.

Even so it is impossible to propose strict recommendations here. The following criteria are recommended to analyse the national publishing output, to choose indexing tools appropriate to efficiently cover the variety of materials, and to establish indexing levels for different resources based on the significance of the works, so that each NBA can build a consistent application scenario of tools and levels, where users' needs are satisfied in the most convenient way.

## *5.1 Different levels of subject access*

Bibliographic standards in NBs are important because the records are to be shared and re-used. NBAs have therefore developed various levels of cataloguing to achieve homogeneous treatments of similar types of resources.

In IFLA's Bibliography Guidelines, four levels of cataloguing — basic, enhanced, comprehensive, and authoritative — and also the use of standard indexing and classification schemes are recommended. These Guidelines also state:

> 4.4 Level of cataloguing:
> […] In the future a graduated approach will be inevitable in which the level of cataloguing appropriate to different types of resource will be determined:
> . in relation to the level of metadata already associated with the resource
> . in relation to the significance of the resource for the national bibliography.
> 4.4.2 Type of resource and level of metadata […] The decision on the level of metadata should be based on the content of the resource and NOT on the format (Žumer 2009: 48).

The Working Group on Subject Access by NBAs recommends the following levels for subject indexing.

[58] Wiggins, Beacher in Žumer 2009: 29.

**Recommendation**
**13 Use two levels for subject indexing:**

- **A full level, providing indexing with enhanced access by authoritative subject terms, as well as classification notations;**
- **A minimal level, providing for most of the resources at least one controlled subject term and/or classification notations, shortened if necessary.**

These two levels correspond to the four levels described in the Bibliography Guidelines in the sense that full encompasses enhanced, comprehensive, and authoritative and is open to be extended into the future with other agents adding appropriate data, such as subject information gleaned from TOCs, etc. Therefore the two levels are not rigidly prescribed but each NBA should fix them more exactly, according to the adopted tools, users' needs, specific fields of national interest, available metadata and so on. A few national examples can be found in *chapter 7*.

Authority control should be used for all subject terms and classification notations, on both levels.

The forms of names used as subjects should be the same as those used as access points to the descriptive parts of the bibliographic record.

Besides these two levels there should be basic, uncontrolled subject access by keywords. As already explained in chapter 3 and 4, natural language indexing is a complement to controlled indexing.

If different series of an NB are produced to cover materials of special interest, indexing provided could be different from the fixed levels (e.g., a series for doctoral theses can adopt a broad classification based on examination matters).

Application scenarios and level requirements should be regularly reviewed and updated.

## *5.2 Selection criteria for subject access levels*

In the field of subject access the most important aspect to consider is the content of the resource and its informational potential. Both the characteristics of the resources and users' needs must be considered in the choice of indexing tools and levels. NBAs should consider these factors before deciding on the level of subject access.

"We must show flexibility in our bibliographic standards for the new publications as national bibliographies will include documents with various levels of complexity" (Parent 2008).

### 5.2.1 Characteristics of materials

#### *Subject (discipline)*

For certain subject areas, a national policy should be established for those subject disciplines deemed important to reflect the national publishing output or culture. Some things would be evaluated for fuller cataloguing, for example to provide a full reflection of a country's scientific output. If the resource is one that is considered to have "ephemeral information and judged to be of little interest to contemporary or future audiences" (Žumer 2009: 52), a decision can be made to use keyword access only and/or a broad classification notation.

***Special topics***

For resources that document topical events, episodes, incidents, and experiences in a country (e.g., elections, natural disasters) it may be appropriate — depending on the collection policy and the role of the NB as a window of cultural heritage — to provide enhanced subject access.

***Genres / content types (fiction, poetry...)***

For resources such as novels, music, poetry, etc., where aboutness is not intentionally definitive, assigning subject access the same as to informative works may be misleading. In these cases a genre term may be more useful for retrieving the resource than a topical term. Genre terms and content types are generally not considered subject terms and sometimes are managed as separate lists, but some national traditions of subject cataloguing consider genre terms and content type codes to be subjects.

***Language (national / foreign publications)***

The language should not affect the choice of level. If the resource is being added, it should be according to the content and anticipated use.

***Year of publication***

The year of publication should generally not affect the choice of level, but if there is a need, older publications of all types can be indexed at the minimal level.[59]

***Document types / physical formats (books, serials, electronic...)***

The document type should generally not affect the choice of a level, but it depends on the volume of publications to be described that can be managed by the NBA. Especially non-text formats like photographs, videos, recorded music, geographic maps, digitised artefacts etc., present a challenging task to indexing as well as to retrieval.[60] For online publications, i.e., web resources or digitised documents, it may be appropriate to apply very basic indexing, including fully automatic techniques (*see chapter 3.6*). Several NBAs create different series of their bibliographies distinguished by document types, and may make pragmatic decisions regarding subject access that may differ by document type (contrary to the Bibliography Guidelines).

***Legal deposit***

Legal deposit resources could fall into any level. If the resource is purchased, it should be indexed at least at the minimal level.

### 5.2.2 Users

Access level can depend on the different target groups. *Chapter 2* addresses users of the national bibliography. An NB is for the use of all types of users, and therefore the level of indexing should depend on the perceived value of the resource (general interest, research, etc.) to a wide range of users.

If different series of an NB are created for resources intended for specific kinds of users, e.g., for children, specific decisions regarding subject access may be made for every series.

[59] A few NBAs decided not to cover older publications (mostly those older than the current five years) in the NB while others decided not to provide full cataloguing/indexing.
[60] See Hazen 2004 about assigning suitable subject access as for instance for videos used by indigenous communities.

### 5.2.3 Other considerations

***The purpose of the indexing tool***

Not every indexing system provides the same results. Most subject heading systems allow more specific access than classification systems, possibly providing up-to-date scientific nomenclature. Classification systems allow organised views of sets of resources in a domain. The characteristics of the vocabulary used have to be considered.

***The level of existing metadata or enriched content***

Metadata are available for most electronic resources. The extent that such data can be re-used and their quality can influence the level of indexing. Generally, as much subject metadata as is available should be captured for online bibliographies. Depending on the extent of that metadata, decisions can be made regarding adding further subject access manually.

***Independent component parts***

Indexing should be primarily applied to independent monographs, to serials, and to some other resources. For example single parts of multipart resources could be indexed if catalogued separately and if their subject is different and cannot be retrieved from that of the whole resource. Exceptionally, works included as components of independent resources like chapters within monographs or articles within serials are indexed.[61]

***National publishing output***

The number of titles of national documents in an NB may influence the level of subject access. The greater the growth of the collection, the more costly it is to treat all documents homogeneously and/or comprehensively.

***Extent of national bibliographic content***

Some NBs include mainly works published in their country (territoriality principle) while others also collect publications from elsewhere in the world in the national language or from national authors or sometimes even on national topics (nationality principle). On the other hand, the extent of the collection often differs by document types. As far as the collection development policy reflects the interest of acquired resources, this should enhance the level of indexing.

***Human resources***

Constraints on the capacity of NBAs influence the number of items that can be indexed. Collaborative cataloguing, copy cataloguing, and automatic or machine-aided procedures can determine indexing workflows.

***Budget***

The budget would affect the levels of cataloguing in practice, but guidelines are set up for the desired levels.

## 5.3 Decision matrix

The following table illustrates how indexing levels may be assigned to categories of resources according to their significance and to the factors named above. When more than one factor is applicable, the level assigned is a balance of the levels suitable for the factors. An NBA should provide its own table, exactly reflecting the choices for indexing in the NB, to guide indexers and ensure consistency.

[61] Numerous NBs include also indexed journal articles, e.g., the Polish and the Serbian.

| **Type and characteristics of resource** | **Significance of resource / Recommended level** | | |
|---|---|---|---|
| | **High / Full** | **Intermediate / Minimal** | **Low / No controlled subject access** |
| Subject area of special interest | x | | |
| Ephemeral information | | | x |
| Special topics | x | | |
| Year of publication: old | | x* | |
| Document type: non-text | | x* | |
| Online, harvested resources | | | x |
| Formally published | x | | |
| Purchased | x# | x# | |
| Surrogate or successor to print resources | x | | |
| Resources with research value | x | | |
| Resources intended for use as research or reference tools | x | | |
| Resources intended for a special or priority collection within the NL[62] | x | | |
| Resource with full descriptive cataloguing | x | | |
| Users interest: high, intermediate, low | x# | x# | x# |
| Metadata: quality | x# | x# | x# |

* Classified but without subject heading, for example fiction or poetry, recordings of music.

# The factor or its value is determinant of or proportional to the significance of the resource.

[62] Various NLs have “heritage collections“.

# 6. Indexing policies of National Bibliographic Agencies

## *6.1 Communicating the indexing policy*

**Recommendations**
**14 Keep the indexing policy clear and easily understandable to all user groups.**
**15 Publish the policy for internal and external use. Publish the latter on the web, in the language chosen by the NBA and possibly in English if the language chosen is not English.**

An indexing policy is a document describing how subject access is given to different kinds of resources listed in a national bibliography. It is a complement to the rules and guidelines in the indexing tools themselves.

The policy is intended both for people doing the indexing and the users of national bibliographies. The indexers need the policy to keep the indexing consistent, and the users need it to know what kind of subject access to expect for different kinds of resources. It is desirable to try to keep the policy as clear and easy as possible, both to understand and to apply, avoiding exceptions. An indexing policy should be realistic and should be sustainable, both in terms of resources necessary to carry it out and in terms of the rules and systems applied.

Different versions of the policy might be considered, one for internal use and one for external users. For example, the internal version may give guidance to indexing staff regarding treatment of sensitive topics. The external version should be posted on the web, if possible both in the language chosen by the NBA and possibly in English if the language chosen is not English, appropriate to anticipated users of the NB. If the policy has been changed over time, it is important to represent also the previous policies (clearly labelled as such) on the web, as it is important for internal purposes and data management to be able to track changes, and for users to be aware of different treatments over time. Careful documentation of past practices also facilitates searching for older materials.

## *6.2 Content of the indexing policy*

**Recommendations**
**16 Indicate what subject access tools are used.**
**17 Indicate what kinds of resources are indexed.**
**18 Indicate the levels and specificity of indexing.**
**19 Try to keep the indexing policy consistent over time to ensure uniform access to resources.**
**20 Update the indexing policy every time any changes are introduced and show clearly the period each policy covers.**

An indexing policy specifies the details on which subject access tools are used, how they are used, what kinds of resources are indexed, and how exhaustive that indexing is. It should also include information on the specificity of the indexing and, when appropriate, state a maximum number of subject headings or notations to use. If a policy differs by types of resources this should also be stated.

Ideally, an NB should give uniform access to the resources it includes regardless of the type of material. It is desirable to have at least one access point common to all kinds of resources and consistent over time. For decision criteria for different levels of access *see*

*chapter 5*. Mappings to previously used systems allows for uniform access to older records that had been treated in a different way.

The time aspect is also important. Ideally, subject access should be as uniform as possible over time. It should be possible to access resources published during different periods together. NBAs should aim for realistic policies that can be sustained over time. Of course, there might be reasons to change the policy. For example, an NBA might want to adopt an international indexing tool, or abandon obsolete recommendations. The loss of uniform access over time needs to be weighed against what would be gained by the change.

The indexing policy should be updated every time any changes are introduced.

In brief an indexing policy should include information on:

- The subject access tool(s)
    - Which tools are used (rule sets, classification schemes, subject headings list, etc.)
    - The form in which they are used (full or simplified/abridged form, standard or modified form, language if applicable or necessary)
    - The way they are used (by manual or automatic indexing, pre- or post-coordination, etc.)
- The level of exhaustivity and specificity
- The different levels of subject access and how they are defined
- Special treatments of special kinds of resources as applicable (including non-controlled indexing of certain materials).

As described in the chapters before, it is recommended that an NBA aim for providing at least rough classificatory access to *all* the materials indexed. This should be done by using an international classification scheme or at least one that is used by other libraries in the country. This will allow for easier exchange of data nationally and internationally and will also provide an overview of the specificities of a particular national imprint (e.g., in the production of scientific literature).

An NBA should also aim to provide access to all materials listed in the NB, in the language(s) and script(s) of the country.

# 7. Examples of subject access provided by National Bibliographic Agencies

Contrary to statements that „the conceptual underpinnings“ for national bibliographies „are in doubt and their composite coverage remains incomplete“ and „users have had little say in their shaping the endeavour or assessing its results“ and that „the quest, which has always been idealistic, may by now have become merely quixotic“ (Hazen 2004), all existing surveys conducted in the 1990s and in the beginning of this century,[63] current web site information, and typical examples of subject access provided by some NBAs show that a comprehensive and current NB is an important and very useful reference source in different contexts and for various user groups.

## *7.1 Subject access rules and standards used by National Bibliographic Agencies*

All NBAs recognise the importance of adhering to common, international subject access standards in order to promote the international sharing of subject analysis data and the provision of consistent access for NB users worldwide. As already mentioned above (*see chapter 3*) and as the research shows, the subject access tools most often applied are international ones like LCSH, national standards based on LCSH, universal classifications, namely DDC or UDC, other classification systems like LCC, categorisation schemes like Conspectus, or home-grown schemes containing broad categories.

### 7.1.1 Classification schemes

For the arrangement of national bibliographies, universal, general classifications are used to make NBs' information dealing with the entire range of human knowledge available.
As shown in *chapter 3* there are a few widely used universal classification schemes such as DDC, UDC, and LCC. Beside this, there are some national general schemes. The international organizing tools create collections of related resources in a hierarchical, internationally understandable structure which is not taken for granted in national schemes. Sometimes they are not able to meet all the local needs; therefore modifications are introduced at the national level, especially in subject fields like language, literature, history, geography, education, and law.

#### 7.1.1.1 Dewey Decimal Classification (DDC) and adaptations

DDC is one of the most famous and widely used classification schemes among NBAs *(see chapter 3)*. It is used in Australia, Austria, Brazil, Canada, France, Germany, Iceland, Italy, Malaysia, Maldives, Malta, Mauritius, Morocco, Namibia, New Zealand, Norway, Papua New Guinea, Singapore, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Tunisia, United Kingdom, Vietnam, Uganda, and Zimbabwe among other countries.

In some countries, DDC is used without modification; in some national systems the Dewey scheme is slightly modified to meet local needs.
Some NBAs use only top hierarchies for an NB's arrangement whereas others give full classification notations to all resources and display them in the bibliographic records.

The following examples show different applications.

[63] Knutsen, 2001; Knutsen, 2003; Heiner-Freiling, 2000.

***Cyprus***

***Κυπριακή Βιβλιογραφία – Bibliography of Cyprus***

The Cyprus National Library publishes the annual *Bulletin of the Cyprus Bibliography*, which covers the output of the publishing industry in Cyprus for the year.

For the period 1999—2004 the bibliography is organised as a separate file (PDF); entries are arranged by DDC, Second Summary.

ΔΕΛΤΙΟΝ ΚΥΠΡΙΑΚΗΣ ΒΙΒΛΙΟΓΡΑΦΙΑΣ 2004

BULLETIN OF THE BIBLIOGRAPHY OF CYPRUS 2004

000 Γενικά / Generalities

1. Dickenson, Jack, (1932- )

Οι εξωγήινοι που κατοίκησαν στη γη = The aliens who inhabited the earth.
Λευκωσία : INA, 2004.
500 σ. ; 21 εκ.
1. Ιπτάμενα Αντικείμενα Άγνωστης Ταυτότητας

DDC 001.942
ISBN 9963-8968-0-4

CY73-04

Figure 1 Example of an entry in the PDF version of the NB of Cyprus arranged by DDC and with full DDC notation

The bibliography of Cyprus has been accessible online since 2005[64] and is searchable (from the subject access point of view) by subject headings and notations. Extended DDC notations are used for full subject access (not only for arrangement purposes). UDC, LCC and a local classification scheme are also used.

| Εγγραφή 7 | Μονογραφία<br>Γλωσσικό υλικό, έντυπο | | | | | Κυπριακή Βιβλ |
|---|---|---|---|---|---|---|
| Ταυτότητα Εγγραφής: | 017017 | | | | | |
| Τίτλος: | New writing 12 / edited by Diran Adebayo, Blake Morrison and Jane Rogers | | | | | |
| Επιμελητής Εκδοσης: | Adebayo, Diran<br>MORRISON, Blake<br>ROGERS, Jane | | | | | |
| Δημοσίευση: | London ; Picador : British Counsil, 2003 | | | | | |
| Φυσική Περιγραφή: | 331 p. ; 20 cm | | | | | |
| ISBN: | 0-330-48598-9 | | | | | |
| Θέματα: | ENGLISH LITERATURE--20TH CENTURY<br>Αγγλική λογοτεχνία--20ος αιώνας | | | | | |
| DDC Ταξινόμηση: | 8208 | | | | | |
| Αντίτυπα | Αριθμός Εισαγωγής | Συλλογή | Ταξιθετικό Σύμβολο | Τοποθεσία | Στοιχεία Μέρους | Δανείζεται |
| | 085927 | - | 820.8 NEW | ΑΠΟΘΗΚΗ | 2003 | Ναι |
| | 097845 | - | 820.8 NEW | ΑΠΟΘΗΚΗ | 2003 | Ναι |
| MARC Εμφάνιση | | | Συνοπτική Εμφάνιση | | | Πλήρης Εμφάνιση |

Figure 2 Example of displayed DDC and subject headings both in Greek and English in a bibliographic record from the NB of Cyprus

[64] Cyprus National Library Online Catalogue, http://www.cln.com.cy/opac2/cybib.html.

Figure 3 Example of classification systems applied in the database of the NB of Cyprus

***Morocco***

***Bibliographie nationale marocaine - National Bibliography of Morocco***

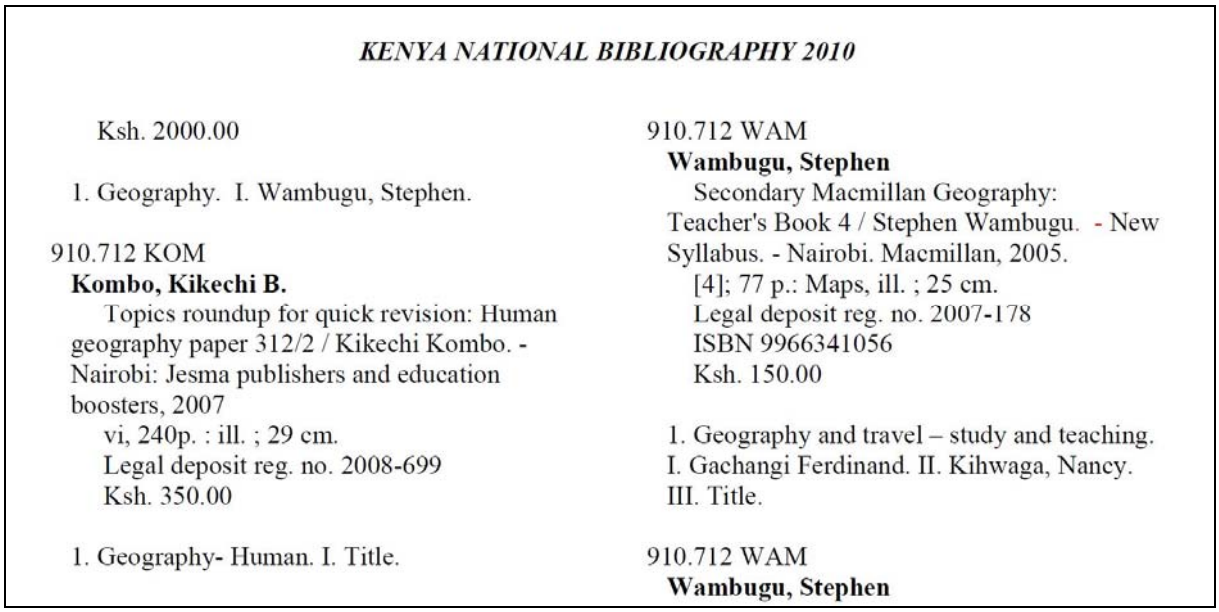
The NB of Morocco is organised according to the Hundred Divisions of DDC in both the online version (since 2007) and the PDF format (before 2007).

Figure 4 Example of DDC application at the NB of Morocco (online version)

### *Kenya*

### *Kenya National Bibliography*

The Kenyan NB entries are arranged according to the DDC, 22nd edition. Parts of DDC literature notations (Class 800) are slightly modified in order to accommodate fiction in indigenous languages. Extensions in the form of abbreviated names of local languages appear in the DDC notations. For example, 896.3923 Kis means fiction in Kiswahili.



*KENYA NATIONAL BIBLIOGRAPHY 2010*

Ksh. 2000.00

1. Geography. I. Wambugu, Stephen.

910.712 KOM
**Kombo, Kikechi B.**
Topics roundup for quick revision: Human geography paper 312/2 / Kikechi Kombo. - Nairobi: Jesma publishers and education boosters, 2007
vi, 240p. : ill. ; 29 cm.
Legal deposit reg. no. 2008-699
Ksh. 350.00

1. Geography- Human. I. Title.

910.712 WAM
**Wambugu, Stephen**
Secondary Macmillan Geography: Teacher's Book 4 / Stephen Wambugu. - New Syllabus. - Nairobi. Macmillan, 2005.
[4]; 77 p.: Maps, ill. ; 25 cm.
Legal deposit reg. no. 2007-178
ISBN 9966341056
Ksh. 150.00

1. Geography and travel – study and teaching. I. Gachangi Ferdinand. II. Kihwaga, Nancy. III. Title.

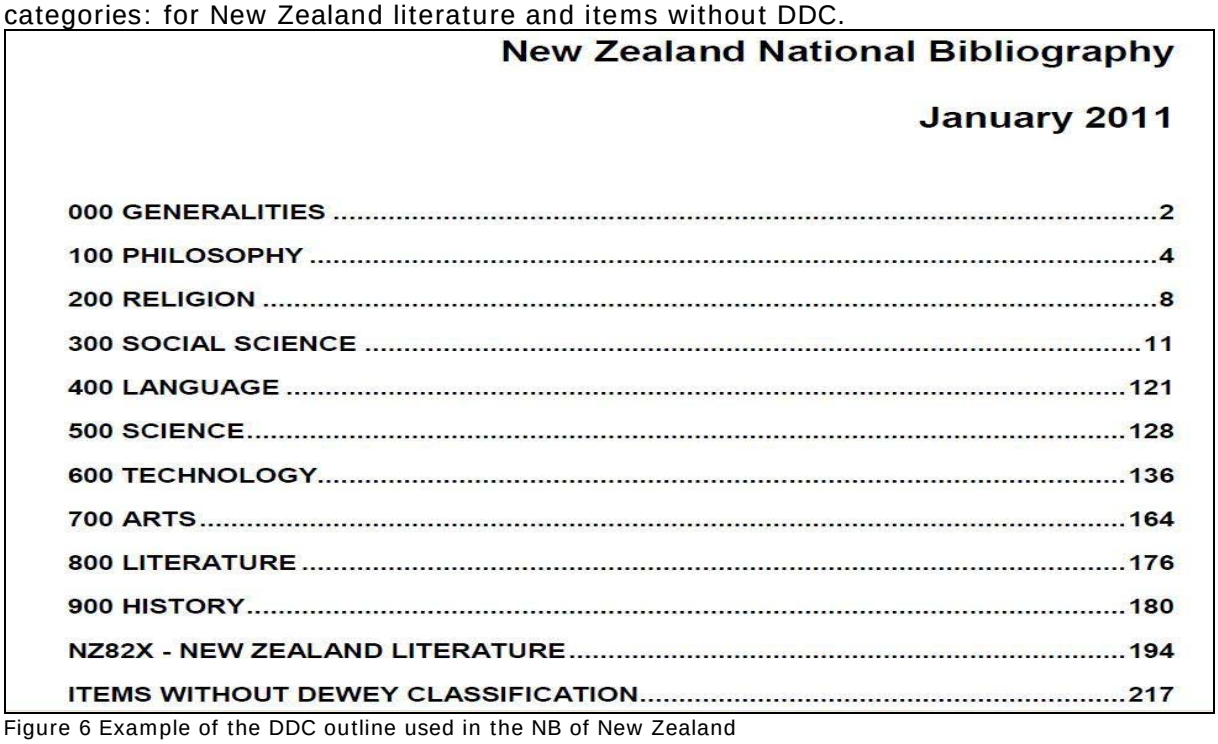
910.712 WAM
**Wambugu, Stephen**

Figure 5 Example of DDC application in the PDF version of the NB of Kenya

### *New Zealand*

### *Te Rarangi Pukapuka Matua o Aotearoa - New Zealand National Bibliography*

The New Zealand National Bibliography (NZNB) contains catalogue records for the New Zealand imprint. It is produced monthly. It includes New Zealand and Tokelau books, serials, newspapers, music, maps, videos, sound recordings, kits, and pictures. The New Zealand National Bibliography is arranged by DDC top hierarchical levels with two special categories: for New Zealand literature and items without DDC.



**New Zealand National Bibliography**

**January 2011**

000 GENERALITIES ..... 2
100 PHILOSOPHY ..... 4
200 RELIGION ..... 8
300 SOCIAL SCIENCE ..... 11
400 LANGUAGE ..... 121
500 SCIENCE ..... 128
600 TECHNOLOGY ..... 136
700 ARTS ..... 164
800 LITERATURE ..... 176
900 HISTORY ..... 180
NZ82X - NEW ZEALAND LITERATURE ..... 194
ITEMS WITHOUT DEWEY CLASSIFICATION ..... 217

Figure 6 Example of the DDC outline used in the NB of New Zealand

*Johnston, Phyllis.*
**The fugitive soldier : a fifteen year old runs away to war / Phyllis Johnston. -**
Auckland, N.Z. : Polygraphia, c2004. - p. cm.
Novel for young adults. - In 1917, a fifteen year old boy runs away from his family problems and joins the army, but is wounded in Belgium and returns home to sort out his future.
ISBN 1877332186 (pbk.) : $19.95
1. Family problems--Fiction. 2. Soldiers--Fiction. 3. War--Fiction. 4. Young adult fiction, New Zealand. lcsh
NZ823.2

Figure 7 Example of DDC extension in a New Zealand NB record of a New Zealand novel

### *Singapore*
### *Singapore National Bibliography (SNB)*

The index of the Singapore NB is arranged by the DDC Second Summary with special national categories for fiction.

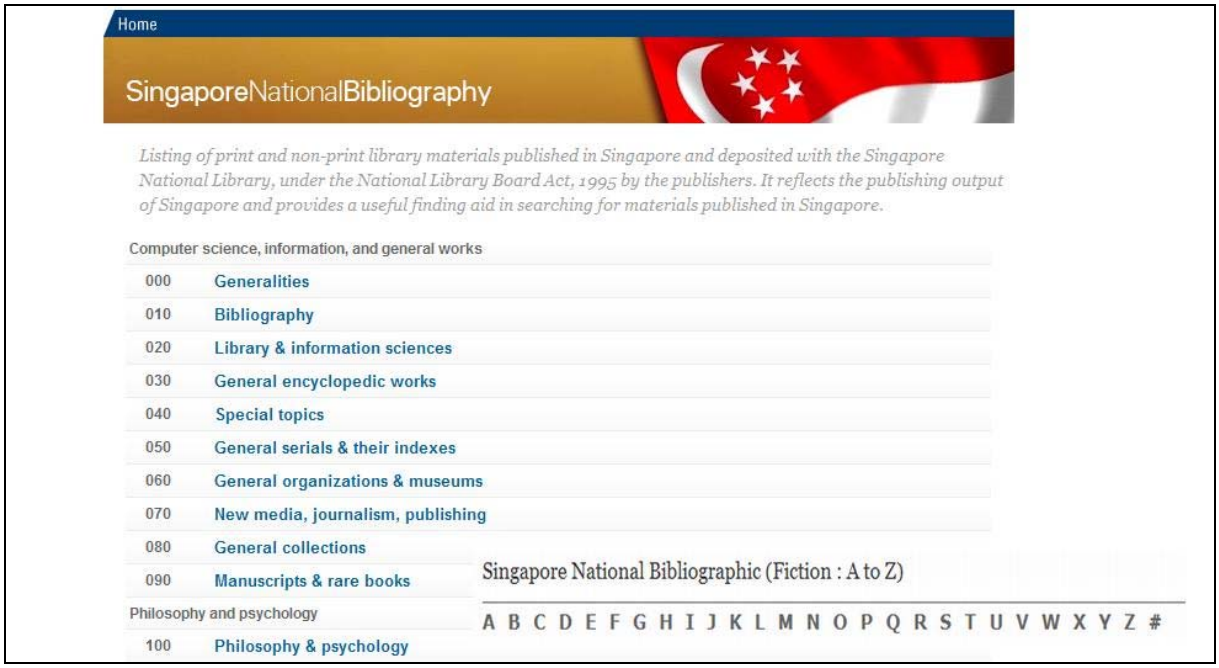



Figure 8 Example of DDC application in the NB of Singapore

### *Switzerland*
### *The Swiss Book — Das Schweizer Buch — Le Livre suisse — Il Libro svizzero — Il Cudesch svizzer*

The Swiss Book is the national bibliography of Switzerland published by the Swiss National Library. This bibliography lists Swiss publications in all media — books, maps, music scores, electronic media and multimedia, periodicals, newspapers, annual publications and series. However, Swiss sound recordings are catalogued and collected at the Swiss National Sound Archives in Lugano.
The Swiss Book is accessible in an online version of Helveticat[65] (the NL catalogue) or in a static version in PDF format. The dynamic online version features search functionalities including searching by DDC classes.

Since 2001, the Swiss Book classification groups are based on the 10 principal classes of the DDC and detailed in ten sub-classes in each case. From 2006 onwards, the selection of the subclasses is oriented to DDC practice in German language national bibliographies — the structure is based for the most part on the the Hundred Divisions (or Second

[65]Helveticat – Online Catalogue of the Swiss National Library, http://helveticat.nb.admin.ch/swissbook.

Summary) of the DDC. Discrepancies were allowed by integrating deeper levels whenever it was necessary to meet user needs, e.g., for Natural Resources (Class 333.7), Military Science (Class 355) or History of Switzerland (Class 949.4). The classification system is used for arrangement purposes only.

Language choices are available for English, German, Italian, and French.

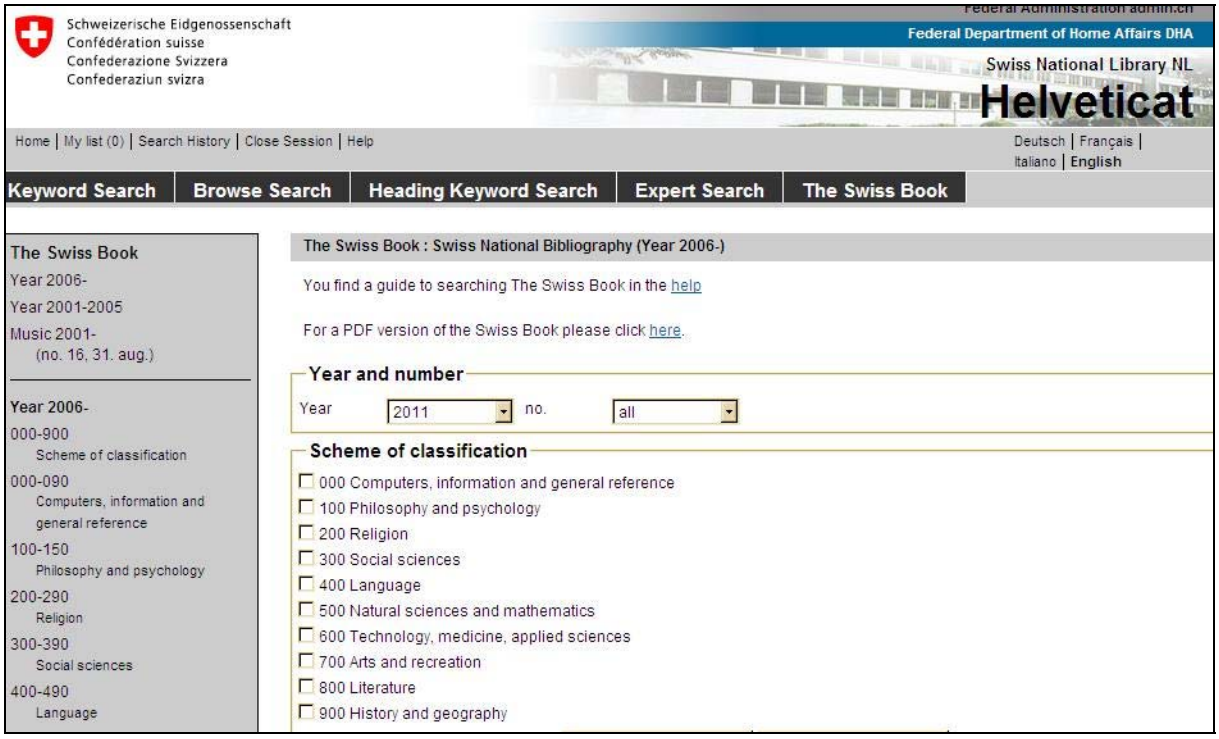
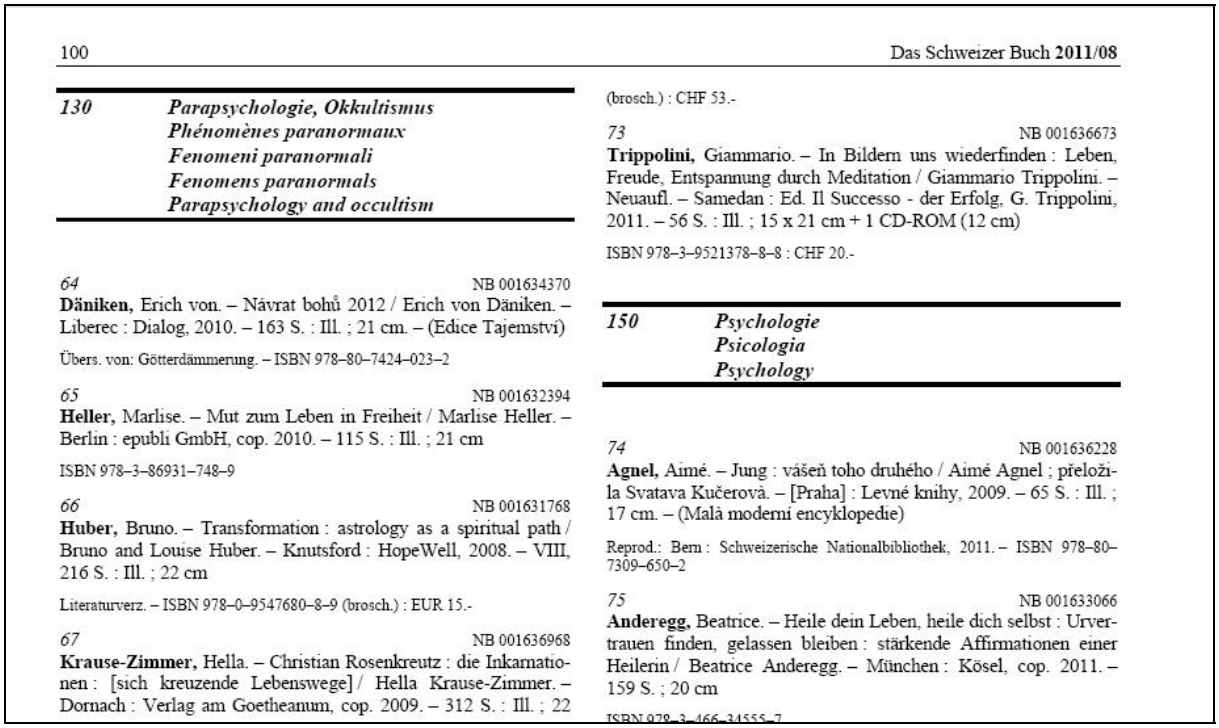


Figure 9 Multilingual DDC Outline of the Swiss Book (online version)


100 Das Schweizer Buch **2011/08**

***130 Parapsychologie, Okkultismus***
***Phénomènes paranormaux***
***Fenomeni paranormali***
***Fenomens paranormals***
***Parapsychology and occultism***

*64* NB 001634370
**Däniken,** Erich von. – Návrat bohů 2012 / Erich von Däniken. – Liberec : Dialog, 2010. – 163 S. : Ill. ; 21 cm. – (Edice Tajemství)
Übers. von: Götterdämmerung. – ISBN 978–80–7424–023–2

*65* NB 001632394
**Heller,** Marlise. – Mut zum Leben in Freiheit / Marlise Heller. – Berlin : epubli GmbH, cop. 2010. – 115 S. : Ill. ; 21 cm
ISBN 978–3–86931–748–9

*66* NB 001631768
**Huber,** Bruno. – Transformation : astrology as a spiritual path / Bruno and Louise Huber. – Knutsford : HopeWell, 2008. – VIII, 216 S. : Ill. ; 22 cm
Literaturverz. – ISBN 978–0–9547680–8–9 (brosch.) : EUR 15.-

*67* NB 001636968
**Krause-Zimmer,** Hella. – Christian Rosenkreutz : die Inkarnationen : [sich kreuzende Lebenswege] / Hella Krause-Zimmer. – Dornach : Verlag am Goetheanum, cop. 2009. – 312 S. : Ill. ; 22 (brosch.) : CHF 53.-

*73* NB 001636673
**Trippolini,** Giammario. – In Bildern uns wiederfinden : Leben, Freude, Entspannung durch Meditation / Giammario Trippolini. – Neuaufl. – Samedan : Ed. Il Successo - der Erfolg, G. Trippolini, 2011. – 56 S. : Ill. ; 15 x 21 cm + 1 CD-ROM (12 cm)
ISBN 978–3–9521378–8–8 : CHF 20.-

***150 Psychologie***
***Psicologia***
***Psychology***

*74* NB 001636228
**Agnel,** Aimé. – Jung : vášeň toho druhého / Aimé Agnel ; přeložila Svatava Kučerová. – [Praha] : Levné knihy, 2009. – 65 S. : Ill. ; 17 cm. – (Malá moderní encyklopedie)
Reprod.: Bern : Schweizerische Nationalbibliothek, 2011. – ISBN 978–80–7309–650–2

*75* NB 001633066
**Anderegg,** Beatrice. – Heile dein Leben, heile dich selbst : Urvertrauen finden, gelassen bleiben : stärkende Affirmationen einer Heilerin / Beatrice Anderegg. – München : Kösel, cop. 2011. – 159 S. ; 20 cm
ISBN 978–3–466–34555–7

Figure 10 The Swiss Book (PDF version) arranged by an enlarged version of the Hundred Divisions of DDC

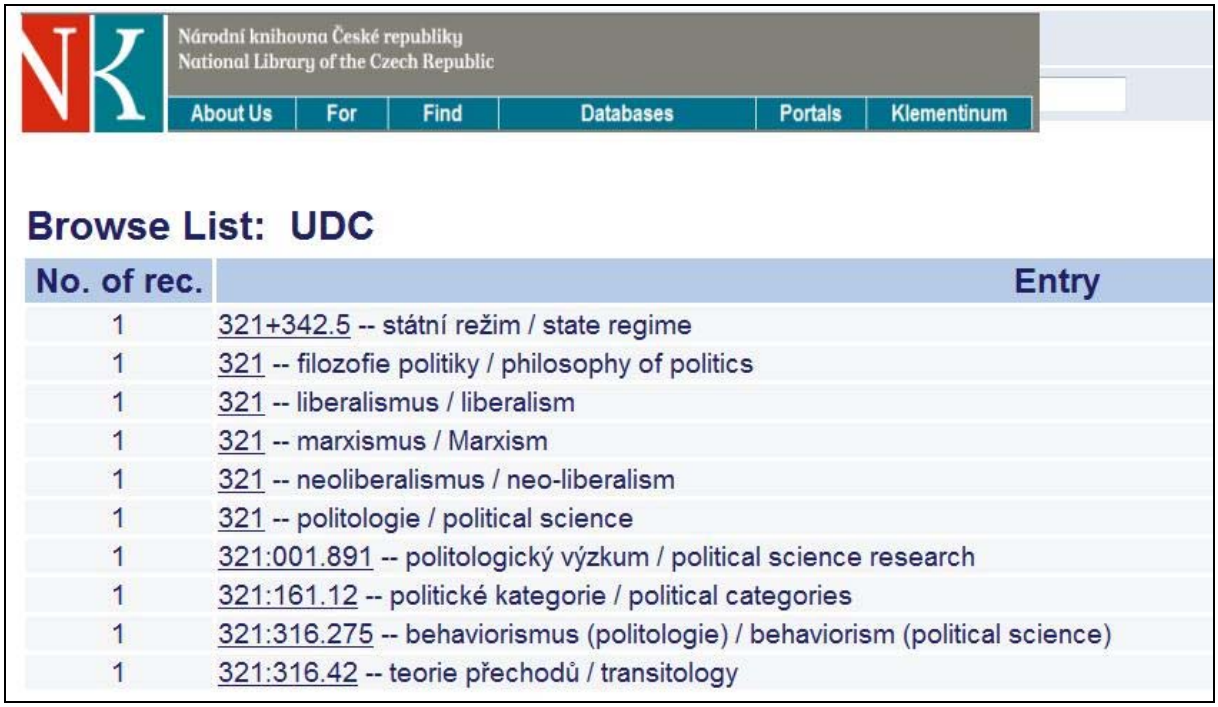
### 7.1.1.2 Universal Decimal Classification (UDC)

The UDC is a sophisticated indexing and retrieval tool. As mentioned in *chapter 3* it is used as a library classification in many countries, including Albania, Andorra, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Liechtenstein, Lithuania, Macedonia, Madagascar, Moldova, Montenegro, Mozambique, Poland, Portugal, Romania, Senegal, Serbia, Slovakia, Slovenia, and Spain among others.

Some NBAs use only top hierarchies for the NB's arrangement whereas others give full classification notations to all resources and display them in the bibliographic records.

The following examples show different applications.

***Czech Republic***
***Česká národní bibliografie - Czech National Bibliography***
The Czech national bibliography integrates documents published in the Czech Republic and received by the NL under Legal Deposit Law. Since 2009, the Czech national bibliography is published as a separate database which forms part of the web catalogue. The CNB news - books is published monthly, CNB news for other documents (continuing resources, electronic resources, physical media, online, graphic, printed music, cartographic documents, and sound recordings) are published quarterly. The monthly and quarterly summaries are arranged by the Conspectus scheme; full UDC notations are entered in CNB records. A UDC browse index presents UDC notations with equivalent verbal expressions in both languages, Czech and English.

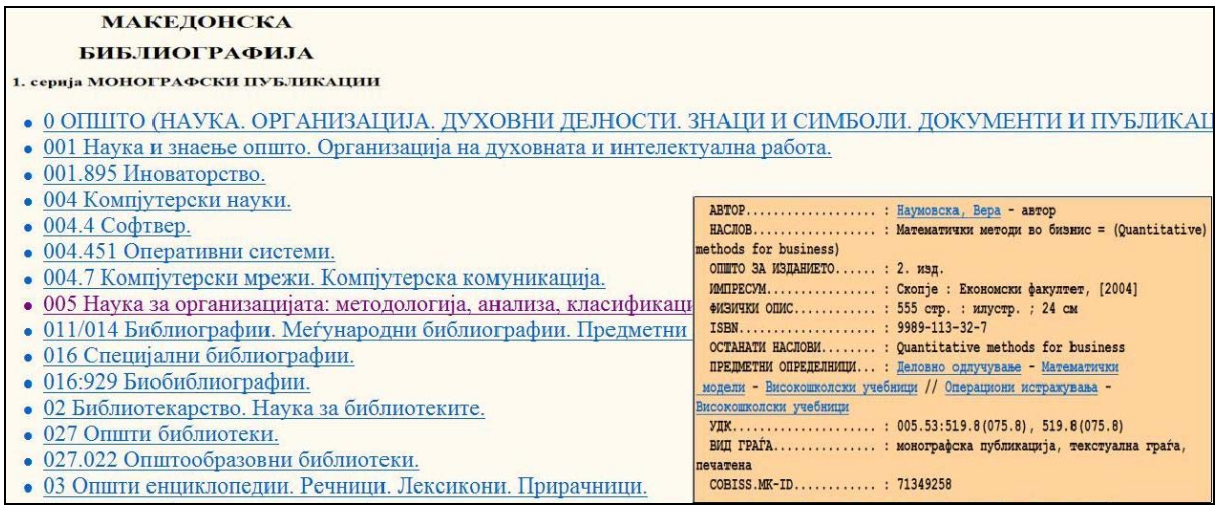



| No. of rec. | Entry |
|---|---|
| 1 | 321+342.5 -- státní režim / state regime |
| 1 | 321 -- filozofie politiky / philosophy of politics |
| 1 | 321 -- liberalismus / liberalism |
| 1 | 321 -- marxismus / Marxism |
| 1 | 321 -- neoliberalismus / neo-liberalism |
| 1 | 321 -- politologie / political science |
| 1 | 321:001.891 -- politologický výzkum / political science research |
| 1 | 321:161.12 -- politické kategorie / political categories |
| 1 | 321:316.275 -- behaviorismus (politologie) / behaviorism (political science) |
| 1 | 321:316.42 -- teorie přechodů / transitology |

Figure 11 Example of the UDC index of the NB of the Czech Republic with equivalent expressions in Czech and English languages

### *Macedonia*
### *Македонска библиографија - The Macedonian Bibliography*

The entries in the Macedonian Bibliography are arranged according to the UDC system. Full classification notations are displayed in bibliographic records.



МАКЕДОНСКА
БИБЛИОГРАФИЈА
1. серија МОНОГРАФСКИ ПУБЛИКАЦИИ

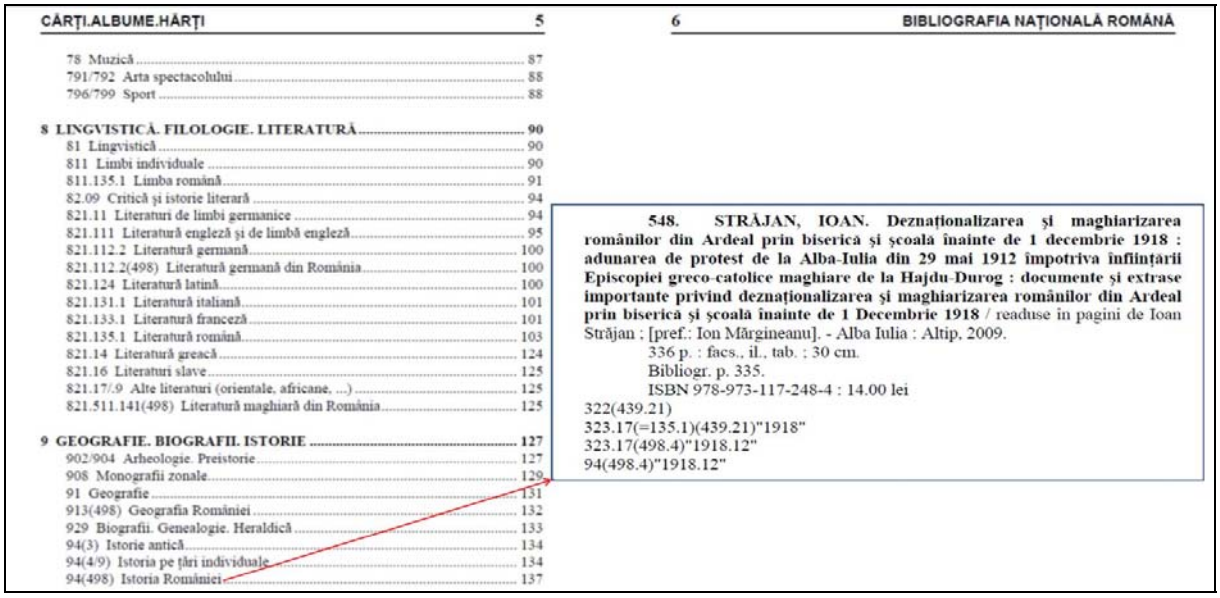
- 0 ОПШТО (НАУКА. ОРГАНИЗАЦИЈА. ДУХОВНИ ДЕЛНОСТИ. ЗНАЦИ И СИМБОЛИ. ДОКУМЕНТИ И ПУБЛИКАЦ
- 001 Наука и знаење општо. Организација на духовната и интелектуална работа.
- 001.895 Иноваторство.
- 004 Компјутерски науки.
- 004.4 Софтвер.
- 004.451 Оперативни системи.
- 004.7 Компјутерски мрежи. Компјутерска комуникација.
- 005 Наука за организацијата: методологија, анализа, класификаци
- 011/014 Библиографии. Меѓународни библиографии. Предметни
- 016 Специјални библиографии.
- 016:929 Биобиблиографии.
- 02 Библиотекарство. Наука за библиотеките.
- 027 Општи библиотеки.
- 027.022 Општообразовни библиотеки.
- 03 Општи енциклопедии. Речници. Лексикони. Прирачници.

АВТОР..... : Наумовска, Вера - автор
НАСЛОВ..... : Математички методи во бизнис = (Quantitative) methods for business)
ОПШТО ЗА ИЗДАНИЕТО..... : 2. изд.
ИМПРЕСУМ..... : Скопје : Економски факултет, [2004]
ФИЗИЧКИ ОПИС..... : 555 стр. : илустр. ; 24 см
ISBN..... : 9989-113-32-7
ОСТАНАТИ НАСЛОВИ..... : Quantitative methods for business
ПРЕДМЕТНИ ОПРЕДЕЛНИЦИ... : Деловно одлучување - Математички модели - Високошколски учебници // Операциони истражувања - Високошколски учебници
УДК..... : 005.53:519.8(075.8), 519.8(075.8)
ВИД ГРАЃА..... : монографска публикација, текстуална граѓа, печатена
COBISS.MK-ID..... : 71349258

Figure 12 Example of UDC application in the NB of Macedonia

### *Romania*[66]
### *Bibliografia Naţionala Română - National Bibliography of Romania*

The entries of the Romanian National Bibliography are arranged by the UDC scheme. Full classification notations are displayed in bibliographic records.



CĂRŢI.ALBUME.HĂRŢI 5

78 Muzică ... 87
791/792 Arta spectacolului ... 88
796/799 Sport ... 88

8 LINGVISTICĂ. FILOLOGIE. LITERATURĂ ... 90
81 Lingvistică ... 90
811 Limbi individuale ... 90
811.135.1 Limba română ... 91
82.09 Critică şi istorie literară ... 94
821.11 Literaturi de limbi germanice ... 94
821.111 Literatură engleză şi de limbă engleză ... 95
821.112.2 Literatură germană ... 100
821.112.2(498) Literatură germană din România ... 100
821.124 Literatură latină ... 100
821.131.1 Literatură italiană ... 101
821.133.1 Literatură franceză ... 101
821.135.1 Literatură română ... 103
821.14 Literatură greacă ... 124
821.16 Literaturi slave ... 125
821.17/.9 Alte literaturi (orientale, africane, ...) ... 125
821.511.141(498) Literatură maghiară din România ... 125

9 GEOGRAFIE. BIOGRAFII. ISTORIE ... 127
902/904 Arheologie. Preistorie ... 127
908 Monografii zonale ... 129
91 Geografie ... 131
913(498) Geografia României ... 132
929 Biografii. Genealogie. Heraldică ... 133
94(3) Istorie antică ... 134
94(4/9) Istoria pe ţări individuale ... 134
94(498) Istoria României ... 137

6 BIBLIOGRAFIA NAŢIONALĂ ROMÂNĂ

548. STRĂJAN, IOAN. Deznaţionalizarea şi maghiarizarea românilor din Ardeal prin biserică şi şcoală înainte de 1 decembrie 1918 : adunarea de protest de la Alba-Iulia din 29 mai 1912 împotriva înfiinţării Episcopiei greco-catolice maghiare de la Hajdu-Durog : documente şi extrase importante privind deznaţionalizarea şi maghiarizarea românilor din Ardeal prin biserică şi şcoală înainte de 1 Decembrie 1918 / readuse in pagini de Ioan Străjan ; [pref.: Ion Mărgineanu]. - Alba Iulia : Altip, 2009.
336 p. : facs., il., tab. ; 30 cm.
Bibliogr. p. 335.
ISBN 978-973-117-248-4 : 14.00 lei
322(439.21)
323.17(=135.1)(439.21)"1918"
323.17(498.4)"1918.12"
94(498.4)"1918.12"

Figure 13 Example of UDC application in the NB of Romania

[66] NB of Romania, http://www.bibnat.ro/Bibliografia-nationala-s84-ro.htm .

***Senegal***
***Bibliographie du Sénégal - National Bibliography of Senegal***

The National Bibliography of Senegal is organised according to the UDC, second level. Currently, the bibliographic records of the NB of Senegal are not available.[67]

Figure 14 Example of UDC (second level) used in arrangement of the NB of Senegal

## 7.1.1.3 Library of Congress Classification (LCC)

Over the course of the twentieth century, the LCC was adopted for use by libraries, especially large academic libraries, in the United States and Canada. Today it is also used in NBs, as for example in Uruguay and Venezuela.

***Uruguay***
The national bibliography of Uruguay includes books, leaflets and periodicals printed in Uruguay from 1990 to 2010. It is organised according to the LCC.

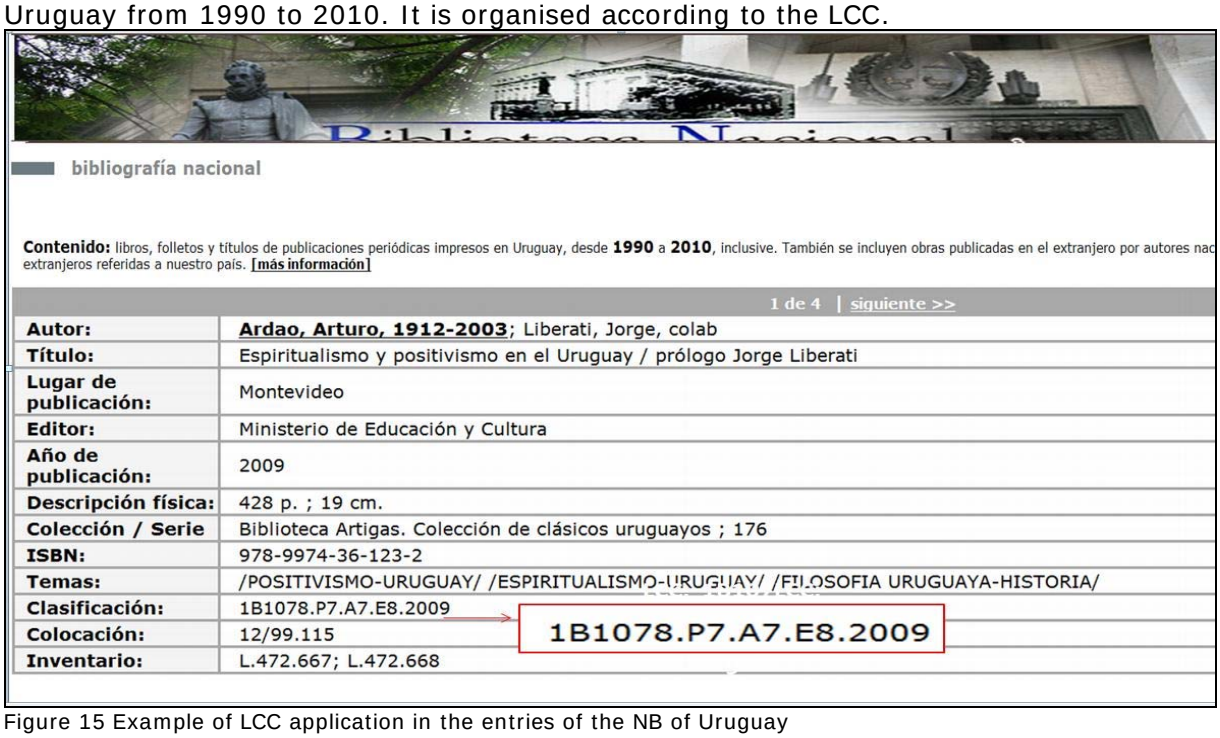


Figure 15 Example of LCC application in the entries of the NB of Uruguay

[67] NB of Senegal, http://www.archivesdusenegal.gouv.sn/catalogue.html .

## 7.1.1.4 National classification schemes

### *Colon Classification - India*

The Indian National Bibliography includes documents published in 14 major languages in India (Assamese, Bengali, Tamil, Telugu, Gujarati, Hindi, Kannada, Malayalam, Marathi, Sanskrit, Oriya, Urdu, English, and Punjabi) and is arranged by the Dewey Decimal Classification; the notations from the Colon Classification scheme are assigned to each entry to facilitate the use of the Bibliography arranged according to the Colon Scheme of classification.
The Colon Classification is a system of library classification developed by S. R. Ranganathan. It was the first faceted (or analytico-synthetic) classification. The first edition was published in 1933. Since then six more editions have been published. It is especially used in libraries in India. The Colon Classification uses 42 main classes that are combined with other letters, numbers and marks and uses five primary categories, or facets, to specify the sorting of a publication further. Collectively, they are called PMEST: personality, matter or property, energy, space, and time.

| | |
|---|---|
| Generalia | N Fine arts |
| A Science (General) | O Literature |
| B Mathematics | P Philology |
| C Physics | Q Religion |
| D Engineering | R Philosophy |
| E Chemistry | S Psychology |
| F Technology | T Education |
| G Natural science (General) and Biology | U Geography |
| H Geology | V History |
| I Botany | W Politics |
| J Agriculture | X Economics |
| K Zoology | Y Miscellaneous social sciences including Sociology |
| L Medicine | Z Law |
| M Useful arts | |

Figure 16 Colon Classification Subject Divisions (1933) [68]

### *Chinese Library Classification[69] - China*

The Chinese Library Classification (CLC), also known as Classification for Chinese Libraries (CCL), is effectively used as the national classification scheme in China.
It is also used in almost all primary and secondary schools, universities, and academic institutions, as well as public libraries. Furthermore, it is applied by publishers to classify all books published in China. CLC has 22 top-level divisions/categories and contains a total of 43 600 sub-categories; many of them are recent additions, meeting the needs of a rapidly changing nation.

[68] Hansen, Anne Marie: *Ranganathan's Colon Classification: Historical and Contemporary Perspectives*. http://mingo.info-science.uiowa.edu/~hansen/Ranganathanpaper.pdf.
[69] Chinese Library Classification (the fifth edition), edited by Editorial Committee of the NLC Chinese Library Classification, http://www.nlc.gov.cn/en/2010/0902/article_185.htm. [This link no longer works]

| | |
|---|---|
| A. Marxism, Leninism, Maoism & Deng Xiaoping Theory | N. Natural Science |
| B. Philosophy and Religion | O. Mathematics, Physics and Chemistry |
| C. Social Sciences | P. Astronomy and Geoscience |
| D. Politics and Law | Q. Life Sciences |
| E. Military Science | R. Medicine and Health Sciences |
| F. Economics | S. Agricultural Science |
| G. Culture, Science, Education and Sports | T. Industrial Technology |
| H. Languages and Linguistics | U. Transportation |
| I. Literature | V. Aviation and Aerospace |
| J. Art | X. Environmental Science |
| K. History and Geography | Z. General, Miscellaneous, Auxiliary and Others |

Figure 17 Chinese Library Classification top-level divisions

中国图书馆图书分类法(Chinese Library Classification - CLC)

A 马克思主义、列宁主义、毛泽东思想、邓小平理论

A1 马克思、恩格斯著作

A11 选集、文集

A12 单行著作

A13 书信集、日记、函电、谈话

A14 诗词

A15 手迹

A16 专题汇编

A18 语录

A2 列宁著作

Figure 18 Example of Chinese Library Classification structure used in the NB of China

### *Chinese Library Classification - Taiwan*[70]

In Taiwan, the Classification Scheme for Chinese Libraries (CCL) had been an important reference tool for cataloguers in all kinds of libraries. In 2001, the NL's Table of Revised Classifications was compiled to resolve the practical problems with its application. The greatest characteristics of this edition are the inclusion of many notations for computer terminologies and the addition of indexes for easy retrieval.

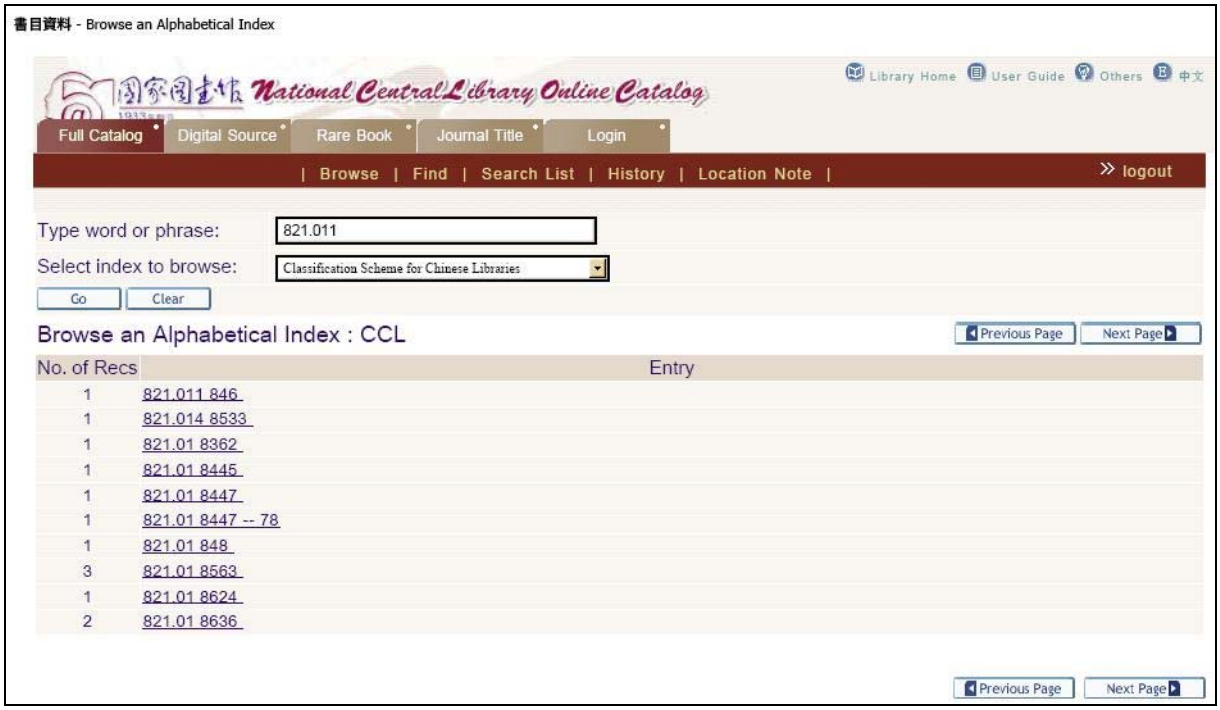



Figure 19 Example of Chinese Library Classification used in the NB of Taiwan

### *DK5 (Danish Decimal Classification, 5th edition)*[71] *- Denmark*

The first edition of the Danish Decimal Classification (DK1) was published in 1915. The 5th edition (DK5) was officially published in 1969 and since then it has been revised many times. It is maintained and published by the Dansk Biblioteksceneter A/S. Corrections and supplements are regularly communicated. Today it contains more than 3000 classes.
The system is based on the 7th edition of DDC from 1911, which was modified for use in Danish libraries. It has three major tasks to fulfill: 1) Shelf arrangement in Danish public libraries, 2) Catalogue system in Danish public libraries, and 3) Bibliographic system in the Danish National Bibliography. It is used for shelf-arrangement in Danish school libraries and public libraries and as a classification system in the Danish national bibliography as well as in the Danish Department in The Royal Library.

[70] Although Hong Kong returned to Chinese sovereignty in 1997, and Macau returned to Chinese sovereignty in 1999, they are special administrative regions of the People's Republic of China and have some independent powers. Therefore, they have not considered the issues of legal deposit copies in the National Library of China, and the China National Bibliography cannot include Hong Kong and Macau publications. Publications from the Taiwan region also cannot be included, because of political reasons, not technical ones. In Hong Kong, legal deposit copies are sent to the Hong Kong Public Libraries and some university libraries. In Macau, the Macao Central Library (Biblioteca Central de Macau) is in charge of ISBN registration and receives legal deposit copies. As for Taiwan publications, the Bureau of International Exchange of Publications is in charge of ISBN registration and also receives legal deposit copies from publishers in Taiwan. It provides ISBN, ISSN, ISRC, and CIP services. People can contact the above mentioned institutions for information about national bibliographies in these regions. See Gu, Ben: National Bibliographies: the Chinese Experience. http://archive.ifla.org/IV/ifla72/papers/109-Gu-en.pdf.

[71] DK5 (Danish Decimal Classification, 5th edition): http://www.iva.dk/bh/Lifeboat_KO/SPECIFIC%20SYSTEMS/dk5.htm.

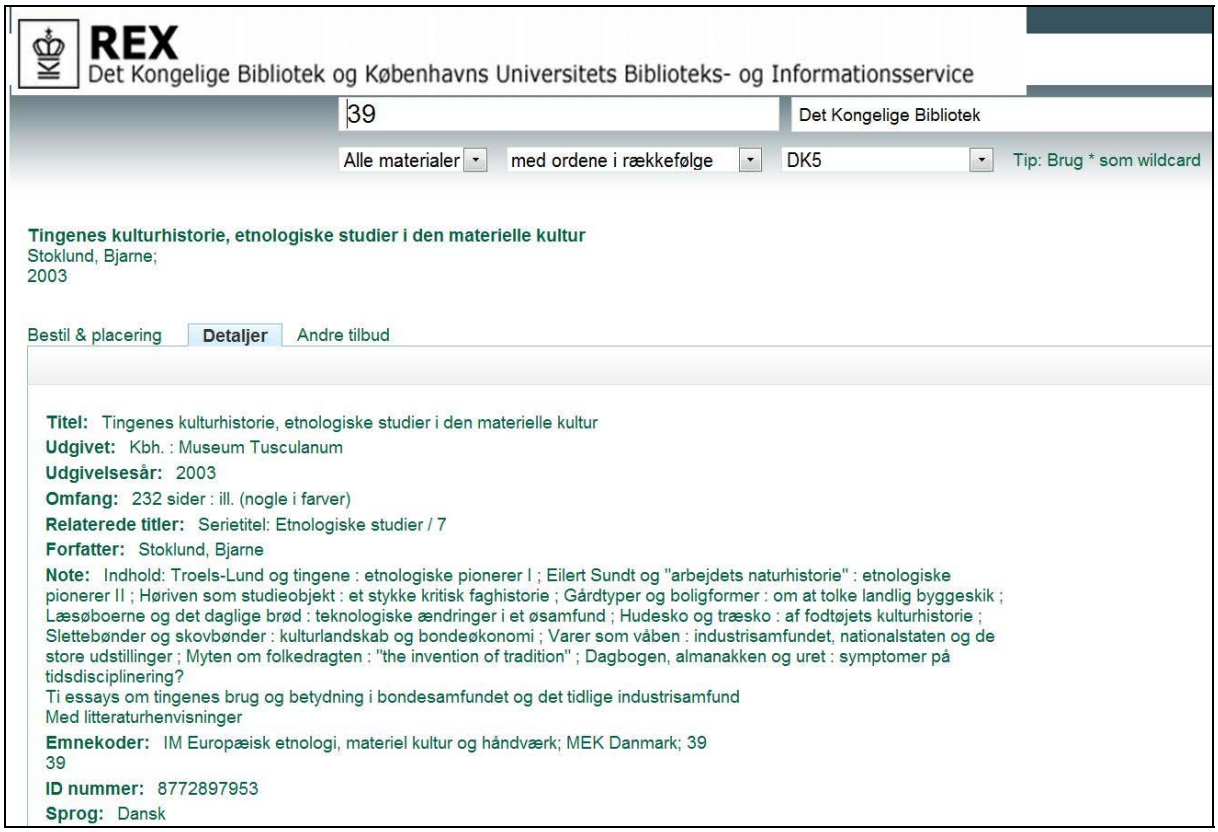


Figure 20 Example of the application of the Danish Decimal Classification DK5

### *Nippon Decimal Classification[72] - Japan*

The Nippon Decimal Classification (NDC), also called the Nippon Decimal System, is a library classification developed primarily for Chinese and Japanese language books, and has been maintained by the Japan Library Association since 1929.
The system is made up of ten categories:

| |
|---|
| 000 General |
| 100 Philosophy |
| 200 History |
| 300 Social Sciences |
| 400 Natural Sciences |
| 500 Technology and engineering |
| 600 Industry and commerce |
| 700 Arts |
| 800 Language |
| 900 Literature |

Figure 21 Example of main categories of the Nippon Decimal Classification

[72] Nippon Decimal Classification: http://en.wikipedia.org/wiki/Nippon_Decimal_Classification.

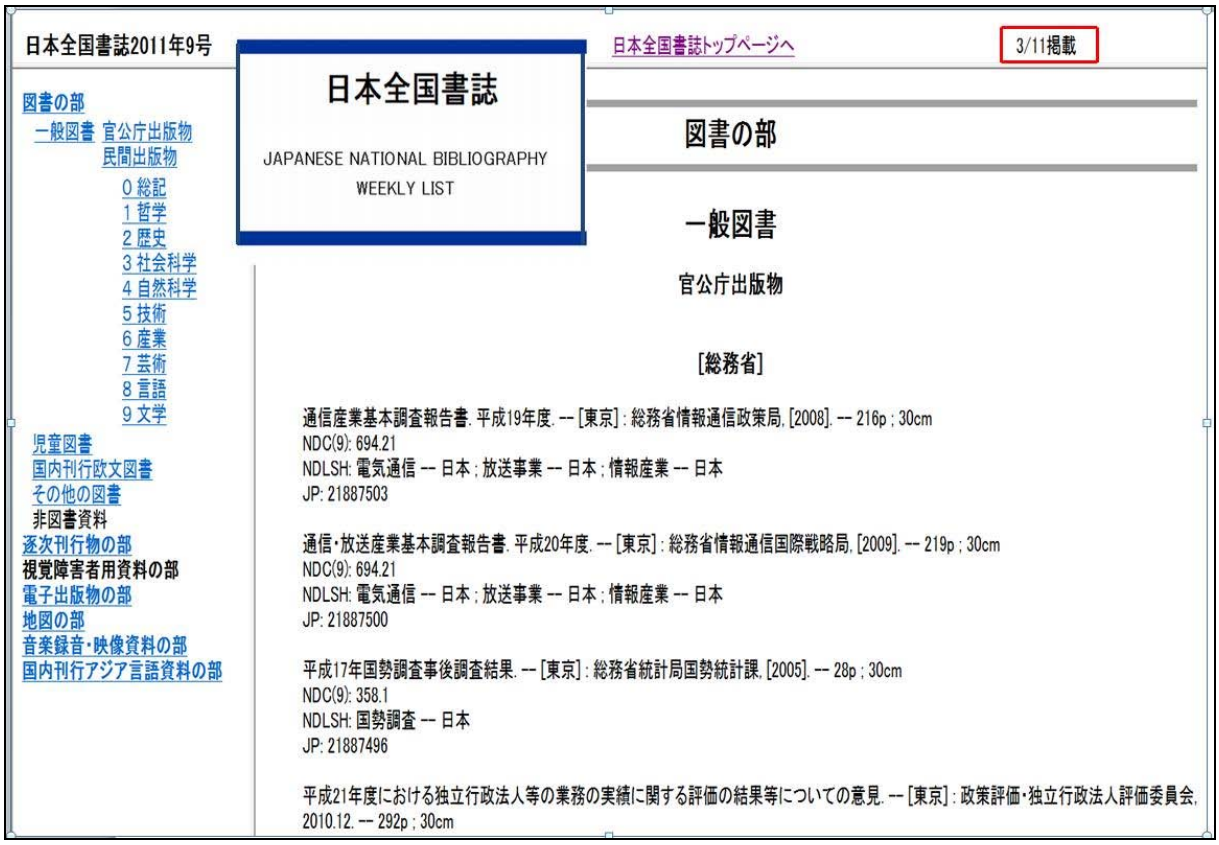



Figure 22 Example of the Nippon Decimal Classification applied in the Japanese NB weekly list

### *Nederlandse Basisclassificatie (BC)[73] – The Netherlands*

The Nederlandse Basisclassificatie (Dutch Basic Classification) is a scheme designed for use within the Shared Cataloguing System of Pica.[74] The BC consists of 48 main hierarchies grouped in five clusters: Generalities, Humanities, Sciences, Engineering, and Social sciences.

OVERZICHT HOOFDRUBRIEKEN BASISCLASSIFICATIE

01 Algemene werken
02 Wetenschap en cultuur in het algemeen
05 Communicatiewetenschap
06 Documentaire informatie
08 Filosofie

10 Geesteswetenschappen in het algemeen
11 Theologie, godsdienstwetenschappen
15 Geschiedenis
17 Algemene taal- en literatuurwetenschap
18 Taal- en letterkunde naar afzonderlijke talen
20 Kunstwetenschappen
21 Afzonderlijke kunstvormen
24 Theaterwetenschap, muziekwetenschap

30 Exacte wetenschappen in het algemeen
31 Wiskunde
33 Natuurkunde
35 Scheikunde
38 Aardwetenschappen

Figure 23 Example of Basisclassificatie categories

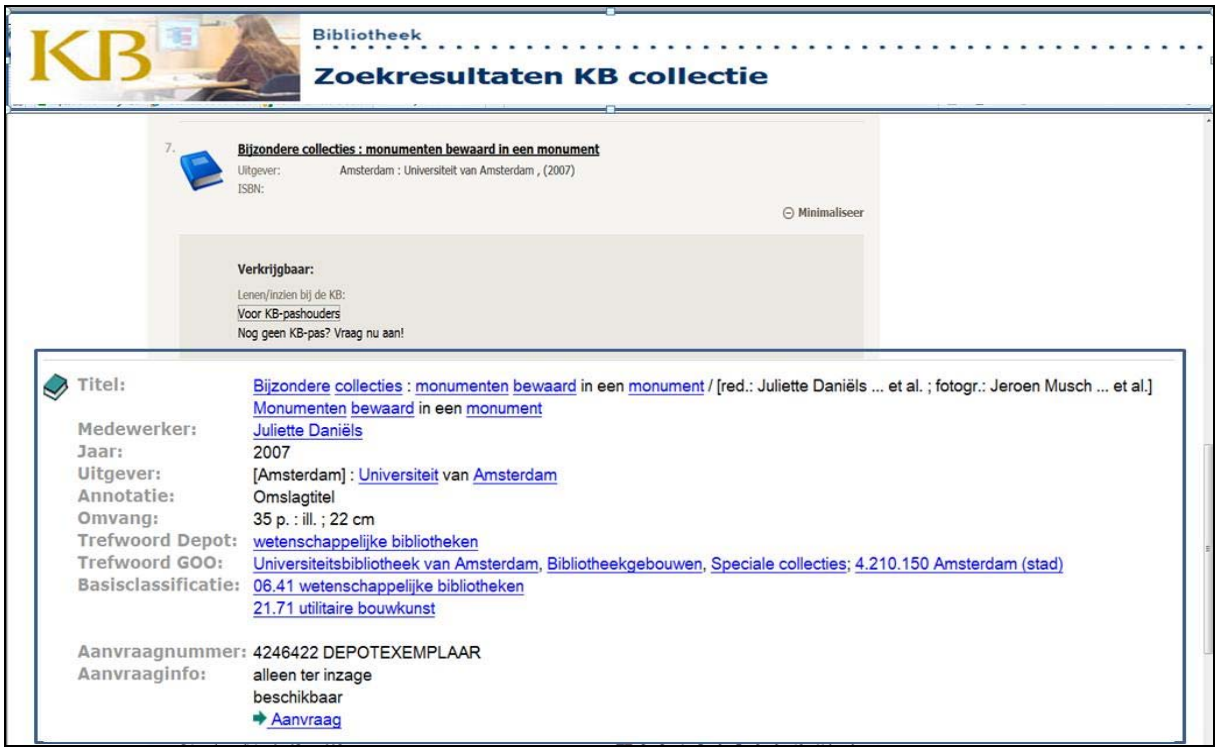



Figure 24 Example of a record of the NB of the Netherlands containing Basisclassificatie categories

[73] Koch, Traugott, et al: *The Role of Classification Schemes in Internet Resource Description and Discovery. Current Use of Classification Schemes in Existing Search Services*, http://www.ukoln.ac.uk/metadata/desire/classification/class_5.htm.

[74] Pica, the Dutch Centre for Library Automation, is a non-profit organisation providing systems and services for the majority of Dutch academic and public libraries and for a number of library networks in Germany.

### 7.1.1.5 Broad subject categorisation schemes

Some NBAs that offer mostly keyword searching and/or alphabetical listing have adopted broad subject categorisation schemes in the arrangement of NBs. Some of these categorisation devices are based on existing classification schemes, e.g. the Conspectus, which is based on DDC and UDC; others represent institutionally applied varieties, like UNESCO subject categories.

The following examples illustrate the application of broad subject categorisation schemes.

***Conspectus Categorization Scheme – Czech Republic***

Conspectus is an international scheme that provides a common framework for collection assessment and description of strengths, introduced initially in the 1980s to serve as an infrastructure for coordination among research libraries. The Conspectus method is currently used not only to support the coordination of collection development but to improve access based on content characteristics of information resources. Since 2001, the Conspectus Categorization Scheme (CCS) has been used in all types of Czech libraries for various purposes, such as: shelf arrangement in open stacks, organisation of NB new titles - the newest NB additions arrangement, information retrieval and subject navigation, collection development and management, subject gateways, topical plans (maps) of library collections, mapping devices and mediators in creation indexing and retrieval tools enabling multilingual or cross-domain searching.

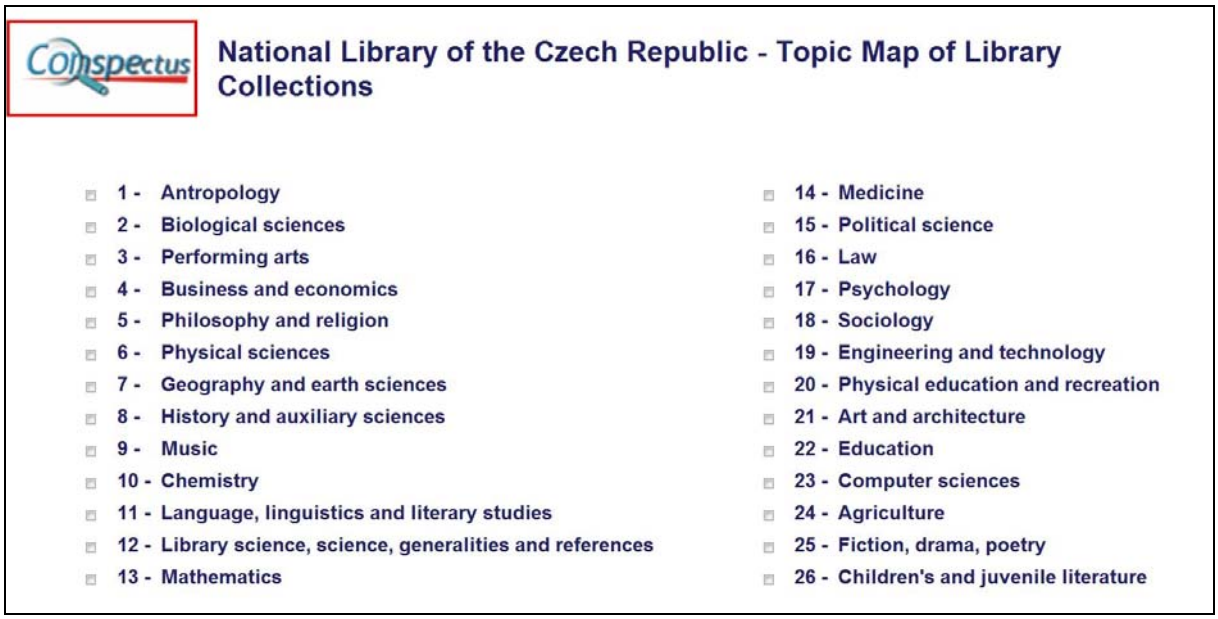



Figure 25 Example of the Conspectus Categorization Scheme for arrangement of the monthly summary of the NB of the Czech Republic

### *UNESCO categories[75] – Belgium*

The weekly and monthly lists of the national bibliography in Belgium are organised according to the UNESCO subject categories scheme, which includes 33 broad categories.

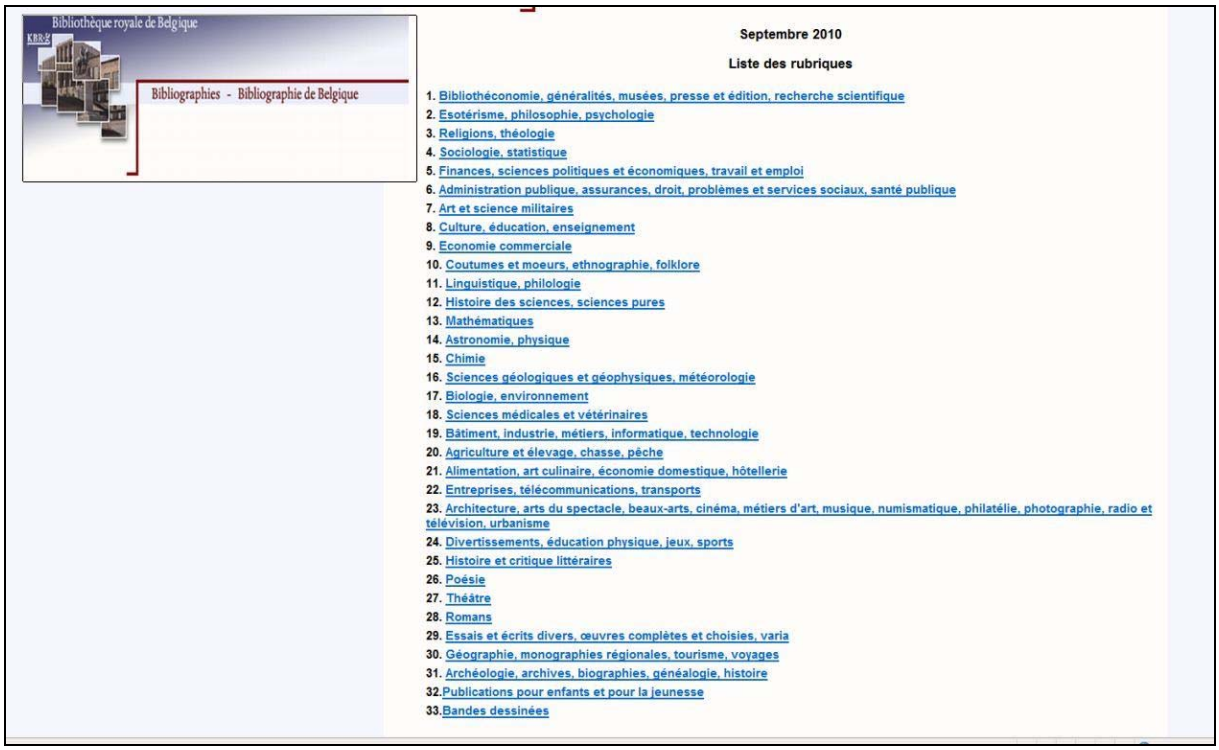



Figure 26 Example of the arrangement of the NB of Belgium by UNESCO categories

### *Qiryat Sefer subject categories[76] - Israel*

*Qiryat Sefer* is the national bibliography of the State of Israel and of the Jewish people. The aim of the bibliography is to document every Israeli publication in all languages and on all subjects, deposited in the Jewish National and University Library - the National Library of Israel. Every bibliographic item can be searched according to a general subject category (i.e., Section) unique to Qiryat Sefer, in addition to the subject classification routinely allocated to each record. The main heading of each section is given in Hebrew, with English translation. The database may be searched in either language.

Where necessary, the basic bibliographic record is enhanced with additional explanatory notes.

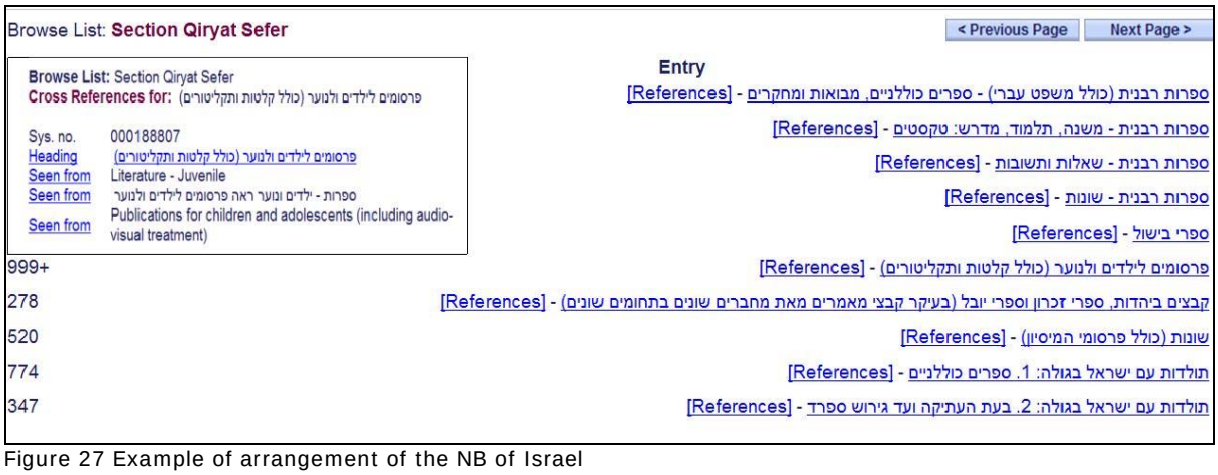



Figure 27 Example of arrangement of the NB of Israel

[75] UNESCO Statistics on Non-periodical Publications (books and pamphlets), 1961, http://unesdoc.unesco.org/Ulis/cgi-bin/ulis.pl?catno=178152&set=4940FD33_2_304&gp=0&lin=1.

[76] The National Library of Israel Online Catalogue, http://aleph518.huji.ac.il/F/?func=file&file_name=library-info-more&local_base=nnlqrs&con_lng=eng.

## 7.1.2 Verbal indexing schemes

It is a main goal of all NBAs to develop and apply "effective tools for verbal subject access that comply with international principles and standards and that are capable of dealing with the exponential growth and availability of information resources on the web, and meeting the information needs of a new generation of users" (Lucarelli 2009).
Effective subject access in NBs cannot exist without standardised access points, i.e. without bibliographic and authority control. The subject terms should be expressed in natural language. Also subject headings should have the same denotations expressed by artificial language terms, used, e.g., in classification schemes.

A few practical examples show the different application of verbal indexing.

### 7.1.2.1 Library of Congress Subject Headings (LCSH) and adaptations

As already shown in *chapter 3*, LCSH is heavily used in NBAs outside of the United States, particularly in English-speaking countries. Even if an NBA reports using a translation or adaptation of LCSH as its principal subject heading system, it should be stressed that it is difficult to apply an international standard without any modification because

- Verbal subject controlled vocabularies are based on and expressed in national languages and
- Subject access should be provided with the greater depth or scope of national or local content (i.e., local and national cultural values and entities that are important for local and national communities).

A modification or extension of the international standard LCSH is sometimes applied even in English-speaking countries (or in those countries in which one of the official languages is English) in order to meet users' requirements and search criteria.

***Australia***
***Australian National Bibliographic Database (ANBD)***[77]

The most commonly used subject cataloguing standard in Australia is LCSH. The library community in Australia will generally not diverge from LCSH except for specific Australian requirements. The National Library maintains the Australian extension to LCSH, which includes additional Australian subject headings and references that have been authorised for use in Australian Libraries.

***Australian Subject Access Project*** [78]

For many years librarians and library users in Australia faced certain limitations when applying LCSH to describe publications that are either uniquely Australian or for which LCSH terminology is inappropriate for the Australian scene. Therefore a specific Australian Subject Access Project was undertaken by the Australian National Bibliographic Database (ANBD) Section at the National Library with the aim to maximise the impact of online access to Australian subject terms.

[77] Subject cataloguing and indexing at the NL of Australia, http://www.nla.gov.au/services/standards.html#SubjectCat.
[78] Australian Subject Access Project, http://www.nla.gov.au/librariesaustralia/slash.html.

| List Of Approved Headings | |
|---|---|
| Acacia harpophylla | (May Subd Geog) |
| Amusement arcades | (May Subd Geog) |
| Approved deposit funds | (May Subd Geog) |
| Banksia integrifolia | (May Subd Geog) |
| Blue tongued lizards | (May Subd Geog) |
| Body corporate | (May Subd Geog) |
| Brownies (Girl Guides) | (May Subd Geog) |
| Collusive tendering | (May Subd Geog) |
| Community broadcasting | (May Subd Geog) |

Figure 28 List of approved subject headings in the Australian National Bibliographic Database project[79]

### *CANADA*

### *Canadiana: The National Bibliography of Canada. Library and Archives Canada Subject Headings Policy*[80]

*Canadiana* lists and describes a wide variety of publications produced in Canada or published elsewhere but of special interest or significance to Canada; it provides standard subject cataloguing information for each item listed.

The languages of cataloguing are English and French.

Library and Archives Canada assigns LCSH to titles selected for "full" level treatment for listing in the national bibliography *Canadiana*, see below.

To meet all the needs of Canadian users, the Canadian Subject Headings (CSH)[81] was created; it is meant to supplement LCSH. The CSH is focused mainly on Canadian cultural, economic, historical, literary, political, and social topics, with a few subject headings in other subject areas. CSH follows the same principles and policies as LCSH for creating headings and subdivisions with a few exceptions where necessary to facilitate integration of the two vocabularies. The headings in CSH are only in the English language, but they have French language equivalents in Répertoire de vedettes-matière (RVM), published by the Bibliothèque de l'Université Laval. RVM also includes nearly all of LCSH.

[79] Australian Extension to LCSH, http://www.nla.gov.au/librariesaustralia/services/cataloguing/standards/lcsh-extension/.

[80] Library and Archives Canada Subject Heading Policy, http://www.collectionscanada.gc.ca/cataloguing-standards/040006-2209-e.html.

[81] Canadian Subject Headings, http://www.collectionscanada.gc.ca/csh/index-e.html, http://www.slais.ubc.ca/courses/libr517/04-05-wt2/projects/csh/csh.htm.

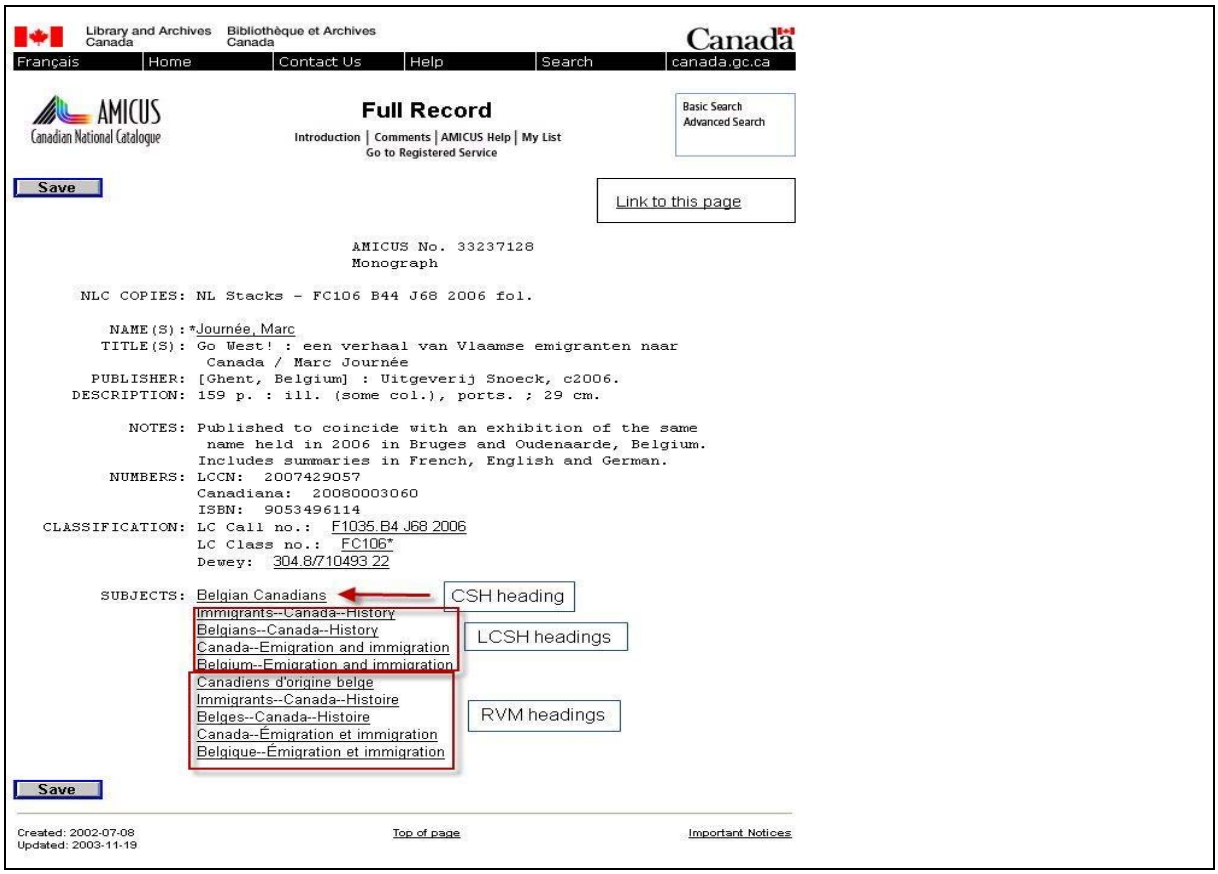



Figure 29 Example of subject headings in the NB of Canada. The English headings in the example are LCSH/CSH headings and the French headings are RVM headings.

### *Chile*

### *Bibliografía chilena – Bibliography of Chile*

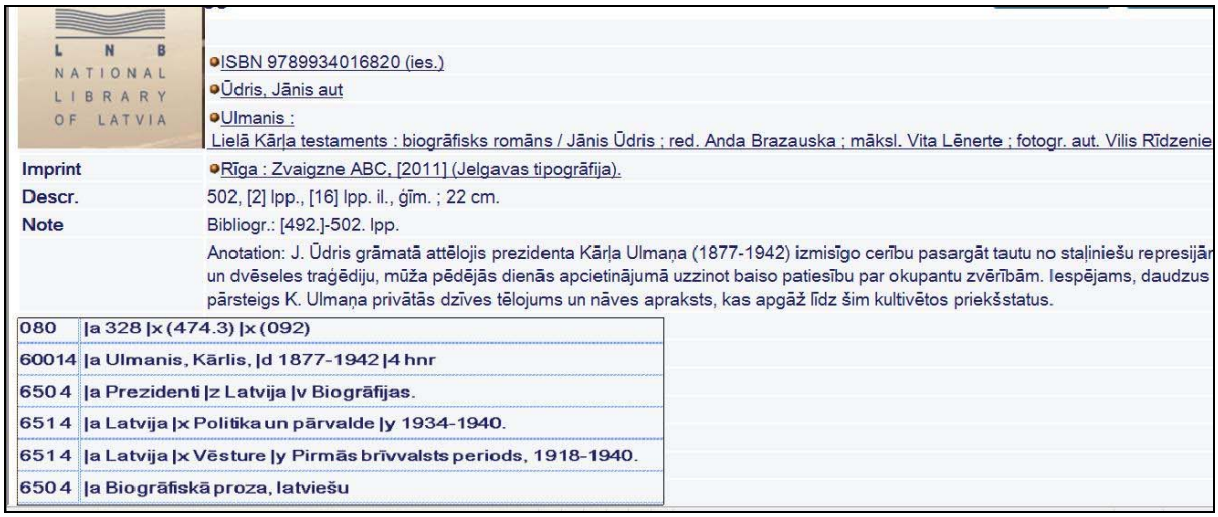
The national bibliography of Chile online integrates the records of printed monographs, electronic resources and multimedia received by the National Library under Legal Deposit Law. Subject headings used in NB records are based on LCSH.

Figure 30 Example of application of subject headings system based on LCSH at the NB of Chile

### *Latvia*
### *Nacionālā bibliogrāfija – National Bibliography of Latvia*

The NB of Latvia contains information about books published in Latvia since 1585, descriptions of books published outside Latvia about Latvia and Latvians since 1940, and descriptions of serial publications (newspapers, magazines, newsletters, collections of articles, yearbooks) since 2000. Information about preprints has been included since 2006. Beginning in 2009, descriptions are supplemented with thumbnails and scanned contents of books. A separate NB database covers articles from serial publications published in Latvia since 1970.

Subject access is provided using UDC (translated into Latvian) and the Latvian Subject Heading List (LSHL), originally based on LCSH. Currently it covers about 32 000 terms (topical and geographic).[82] UDC as well as subject headings are controlled in online databases with authority records containing preferred terms in Latvian and non-preferred terms in English. Thus it allows access and searching in both languages. Controlled terms from LSHL are used also in the Union Catalogue of scientific libraries, public library OPACs, and national digital library collections "Letonica". Currently there is an ongoing adaptation of controlled subject and geographic headings for the NB articles series.



LNB NATIONAL LIBRARY OF LATVIA

ISBN 9789934016820 (ies.)
Ūdris, Jānis aut
Ulmanis :
Lielā Kārļa testaments : biogrāfisks romāns / Jānis Ūdris ; red. Anda Brazauska ; māksl. Vita Lēnerte ; fotogr. aut. Vilis Rīdzenie

| | |
|---|---|
| Imprint | Rīga : Zvaigzne ABC, [2011] (Jelgavas tipogrāfija). |
| Descr. | 502, [2] lpp., [16] lpp. il., ģīm. ; 22 cm. |
| Note | Bibliogr.: [492.]-502. lpp. |
| | Anotation: J. Ūdris grāmatā attēlojis prezidenta Kārļa Ulmaņa (1877-1942) izmisīgo cerību pasargāt tautu no staļiniešu represijā un dvēseles traģēdiju, mūža pēdējās dienās apcietinājumā uzzinot baiso patiesību par okupantu zvērībām. Iespējams, daudzus pārsteigs K. Ulmaņa privātās dzīves tēlojums un nāves apraksts, kas apgāž līdz šim kultivētos priekšstatus. |

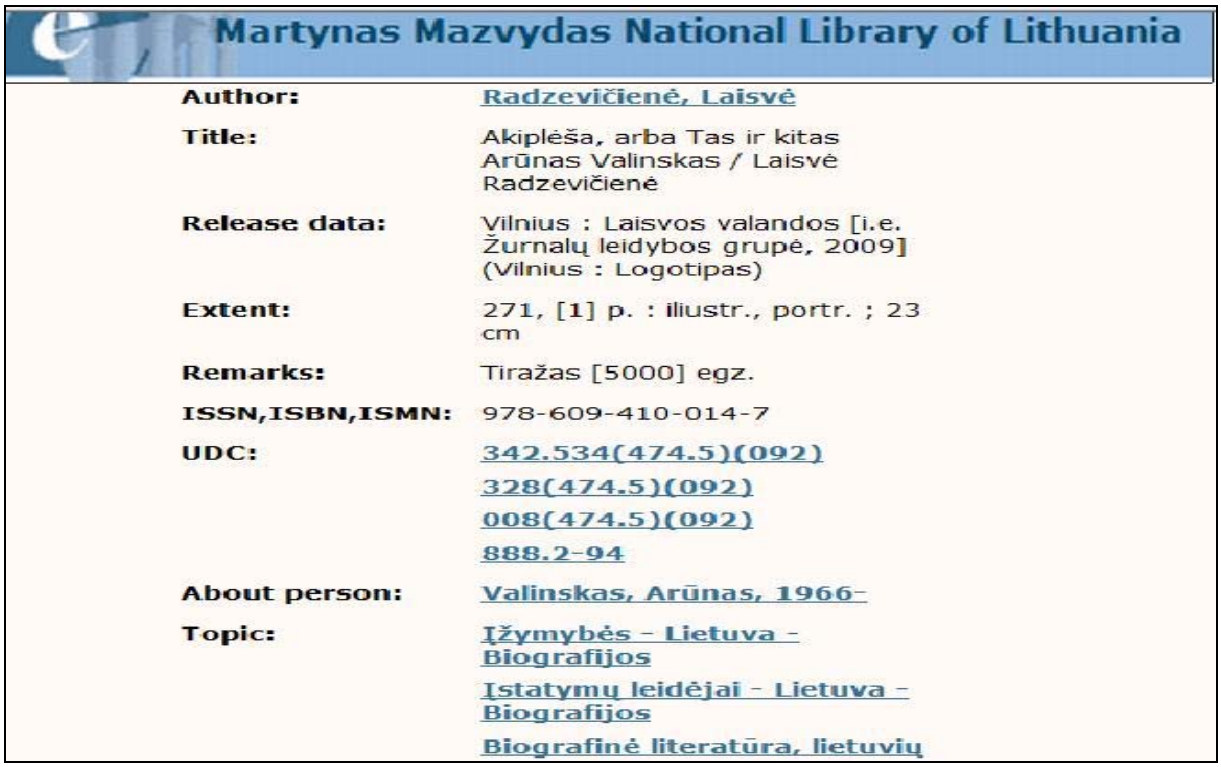
| | |
|---|---|
| 080 | \|a 328 \|x (474.3) \|x (092) |
| 60014 | \|a Ulmanis, Kārlis, \|d 1877-1942 \|4 hnr |
| 650 4 | \|a Prezidenti \|z Latvija \|v Biogrāfijas. |
| 651 4 | \|a Latvija \|x Politika un pārvalde \|y 1934-1940. |
| 651 4 | \|a Latvija \|x Vēsture \|y Pirmās brīvvalsts periods, 1918-1940. |
| 650 4 | \|a Biogrāfiskā proza, latviešu |

Figure 31 Example of subject headings applied in the NB of Latvia

### *Lithuania*
### *Nacionalinės bibliografijos duomenų bankas - National Bibliographic Data Bank*

The NBDB contains bibliographic records of documents, of component parts of documents, and records of retrospective bibliography released in Lithuania and received under legal deposit; Lituanica bibliographic records and the Judaic Catalogue are included as well.[83] Access is provided by the Lithuanian version of LCSH and the UDC scheme translated into Lithuanian.

[82] Methodology for creation of subject headings in Latvian is published in 5 volumes 2008, http://www.lnb.lv/lv/bibliotekariem/standarti/publikacijas/PRPS-1-sejums.pdf.
[83] The National Library of Lithuania Online Catalogues, http://www.lnb.lt/lnb/selectPage.do?docLocator=80&inlanguage=en&pathId=16.



Martynas Mazvydas National Library of Lithuania

| | |
|---|---|
| **Author:** | Radzevičienė, Laisvė |
| **Title:** | Akiplėša, arba Tas ir kitas Arūnas Valinskas / Laisvė Radzevičienė |
| **Release data:** | Vilnius : Laisvos valandos [i.e. Žurnalų leidybos grupė, 2009] (Vilnius : Logotipas) |
| **Extent:** | 271, [1] p. : iliustr., portr. ; 23 cm |
| **Remarks:** | Tiražas [5000] egz. |
| **ISSN,ISBN,ISMN:** | 978-609-410-014-7 |
| **UDC:** | 342.534(474.5)(092)<br>328(474.5)(092)<br>008(474.5)(092)<br>888.2-94 |
| **About person:** | Valinskas, Arūnas, 1966- |
| **Topic:** | Įžymybės - Lietuva - Biografijos<br>Įstatymų leidėjai - Lietuva - Biografijos<br>Biografinė literatūra, lietuvių |

Figure 32 Example of subject headings applied in the NB of Lithuania

### *Namibia*
### *Namibia National Bibliography (NNB)*

LCSH, edition 20, applied in Namibia is extended by subject search terms, the so-called "free subject terms" from the NAMLIT database. The language of cataloguing is English.

| Record No. 2516 | |
|---|---|
| *Shelf number* | 96/1337 A; 96/1338 B |
| *Main author* | Van Rooyen, Petrus Hendrik, 1953- |
| *Title* | Die spoorsnyer / Piet van Rooyen |
| *Publication details* | Kaapstad, Tafelberg, 1994 |
| *Pagination* | 117 p., 22 cm. |
| | **NOTES** |
| *General note* | Text in Afrikaans; "Die spoorsnyer is bekroon met die eerste prys in die Sanlam/De Kat/Kuns op Een-romankompetisie van 1993"-T.p. verso |
| | **SUBJECT ACCESS** |
| *LC Subject* | Afrikaans fiction - Namibia; Afrikaans fiction - 20th century; San (African people) - Fiction |
| *Geographical name* | Namibia |
| *Free subject terms* | Namibian literature; Afrikaans literature; San; South African/Namibian War |
| *Broad subject* | Literature |
| *Dewey Decimal Class.* | 839.3635 (20th ed.) |
| | **BIBLIOGRAPHIC INFORMATION** |
| *ISBN* | 0-624-03289-2 . (pbk) |
| *Language of publication* | afr |
| *Country of publication* | ZA |
| | **AVAILABILITY** |
| *Accession number* | 96/1337 A, 1, p. Edumeds. N$35.80, 96/1338 B, 2, p. Edumeds. N$35.80 |
| *Namibian libraries* | F001 |

LC Subject: Afrikaans fiction – Namibia
Afrikaans fiction – 20th century
San (African people) – Fiction
Geograph. name: Namibia
Free subj. terms: Namibian literature; Afrikaan literature; San; South African/Namibian War
Broad subject: Literature
DDC: 839.3635 (20th ed.)

Figure 33 LCSH terms are combined with the national subject heading terms in the NB of Namibia

### *South Africa*
### *South African National Bibliography (SANB)*[84]

Subject access to records in the SANB is gained through DDC numbers (1959—2006) and LCSH (1992—present).

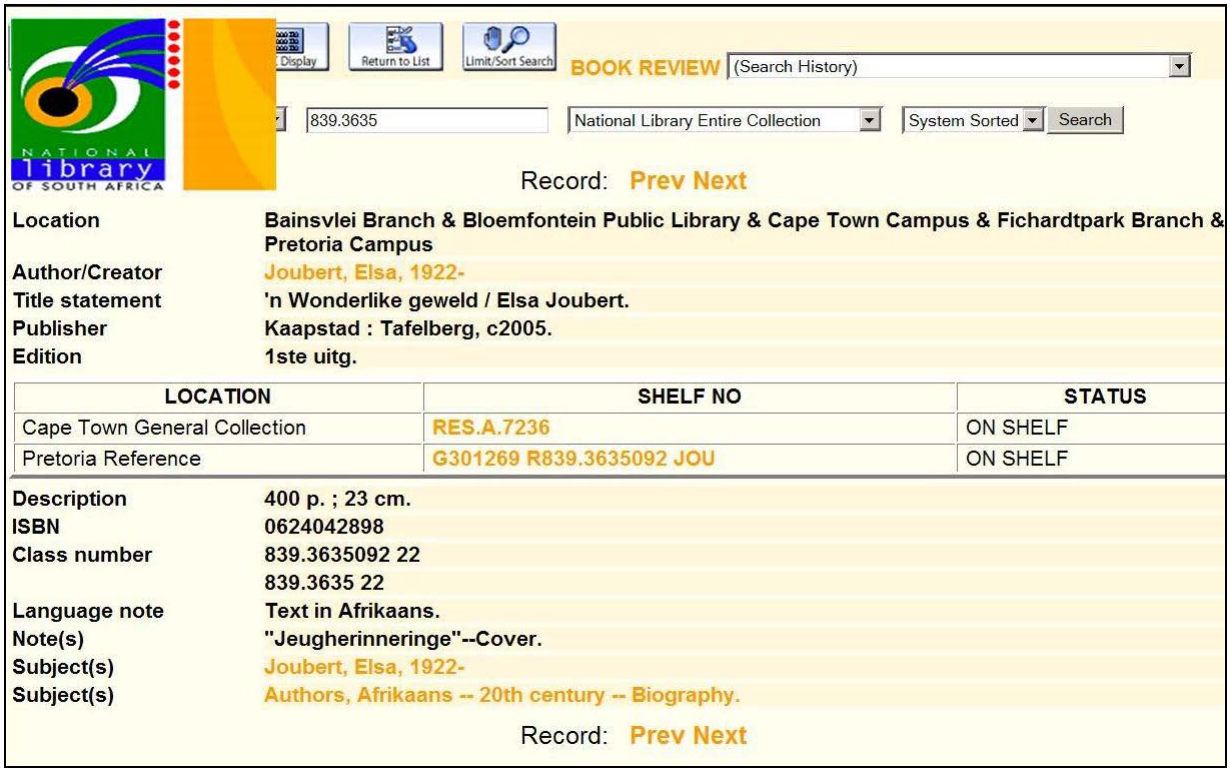


Figure 34 Example of LCSH used in the NB of South Africa

[84] The National Bibliography of South Africa, http://www.nlsa.ac.za/NLSA/databases

## 7.1.2.2 Other subject heading lists or thesauri

### *Chinese Classified Thesaurus (CCT)*[85]

In the 1980s, the importance of subject access was realised by many Chinese librarians and emphasis had been placed on developing a Chinese subject system. A general Chinese Thesaurus was constructed to be used for subject indexing in computerised information systems. It was decided to integrate CLC and the Chinese Thesaurus. This led to the compilation of the Chinese Classified Thesaurus. The Chinese Thesaurus and later the Chinese Classified Thesaurus (CCT) have played key roles in the standardisation of a Chinese retrieval language, and contributed greatly to the modern development of knowledge organization and information processing in China.

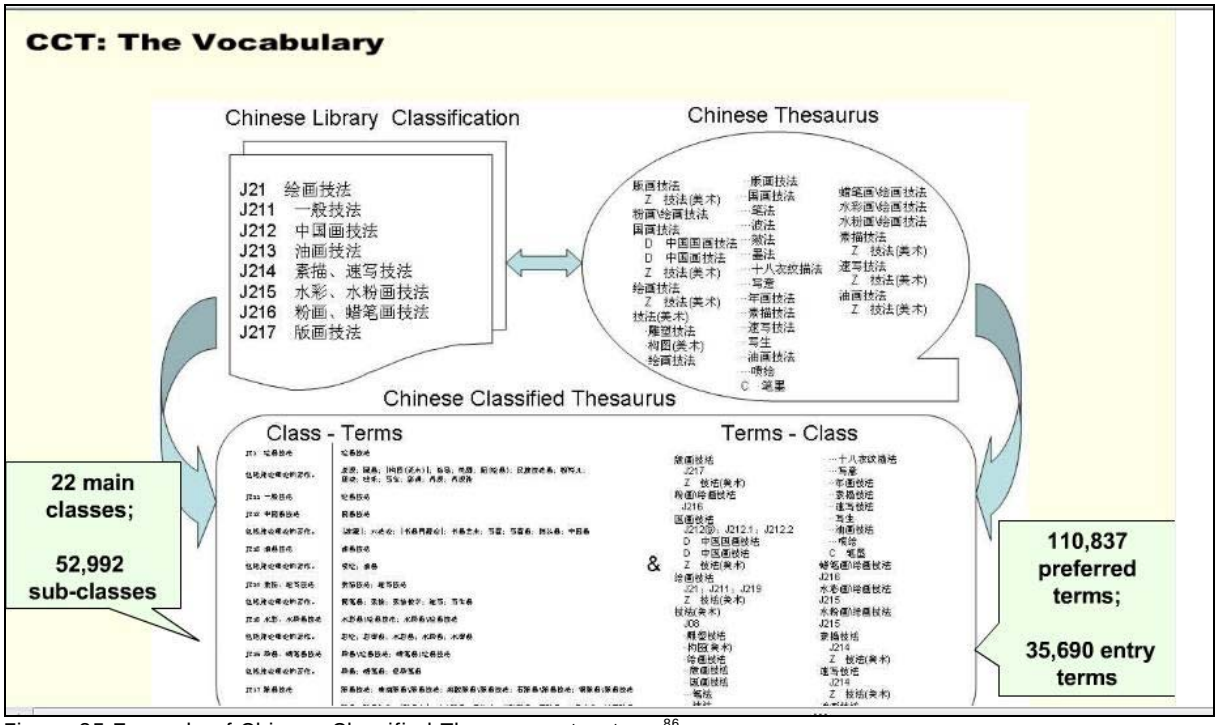



Figure 35 Example of Chinese Classified Thesaurus structure [86]

[85] Pong, Joanna and Celine Cheung: *Cataloging of Chinese Language Materials in the Digital Era: The Cataloging Standards and Practices in China, Taiwan and Hong Kong*, http://jlis.glis.ntnu.edu.tw/ojs/index.php/jlis/article/viewFile/473/473

[86] Zeng, Marcia and Wei Fan: *SKOS and Its Application in Transferring Traditional Thesauri into Networked Knowledge Organization Systems*. http://www.slideshare.net/mzeng/skos-and-its-application-in-transferring-traditional-thesauri-into-networked-kos

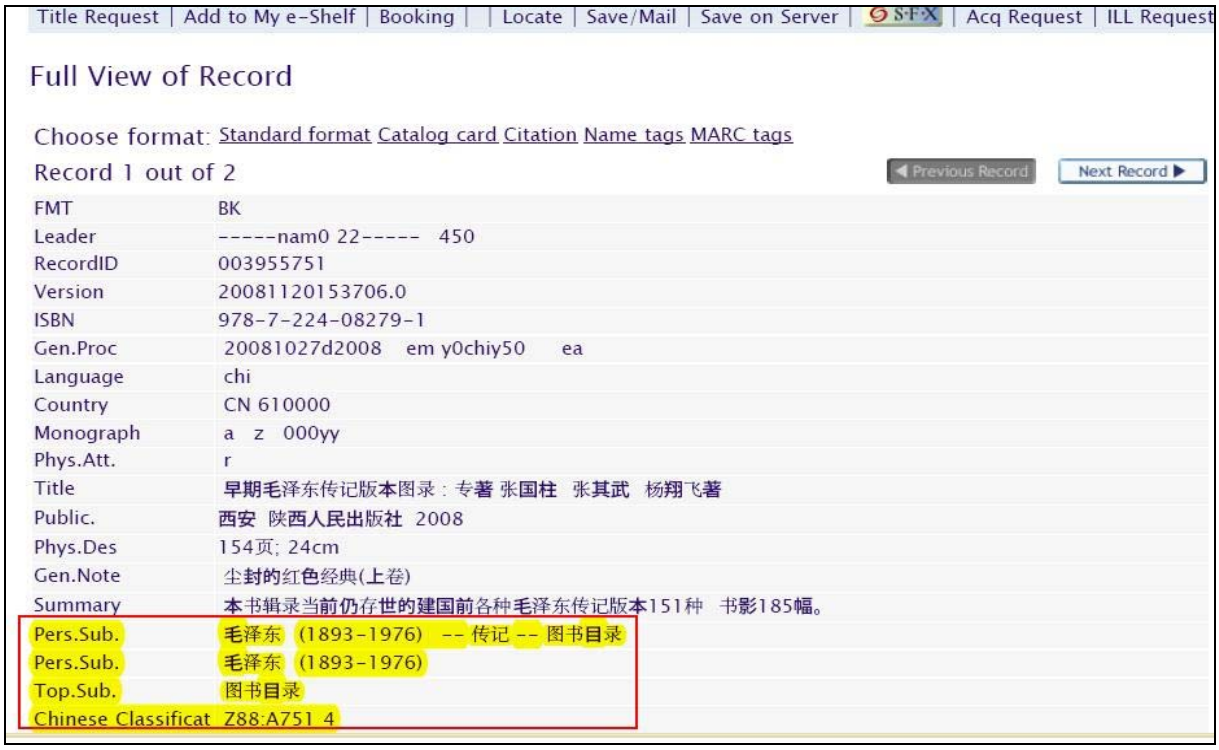


Figure 36 Example of the Chinese Classified Thesaurus presented in the NB of China

### *Czech subject authority file (CZENAS)*

Originally based on LCSH, currently CZENAS represents an integrated indexing and retrieval tool in which controlled terms are linked to the UDC equivalent notations and English equivalents. Controlled vocabulary structure is tied to a classification scheme so that relationships between indexing terms can be expressed more definitely. The mapping process between Czech expressions and UDC numbers is being done intellectually. Single or complex UDC numbers (pre-combined) are linked and English equivalents of preferred terms, mostly LCSH terms, are chosen. The same approach is applied both in the National Library databases, and in the National bibliography. The Czech subject authority file consists of topical, geographical, chronological and genre/form files. It is well accepted among Czech libraries.[87]

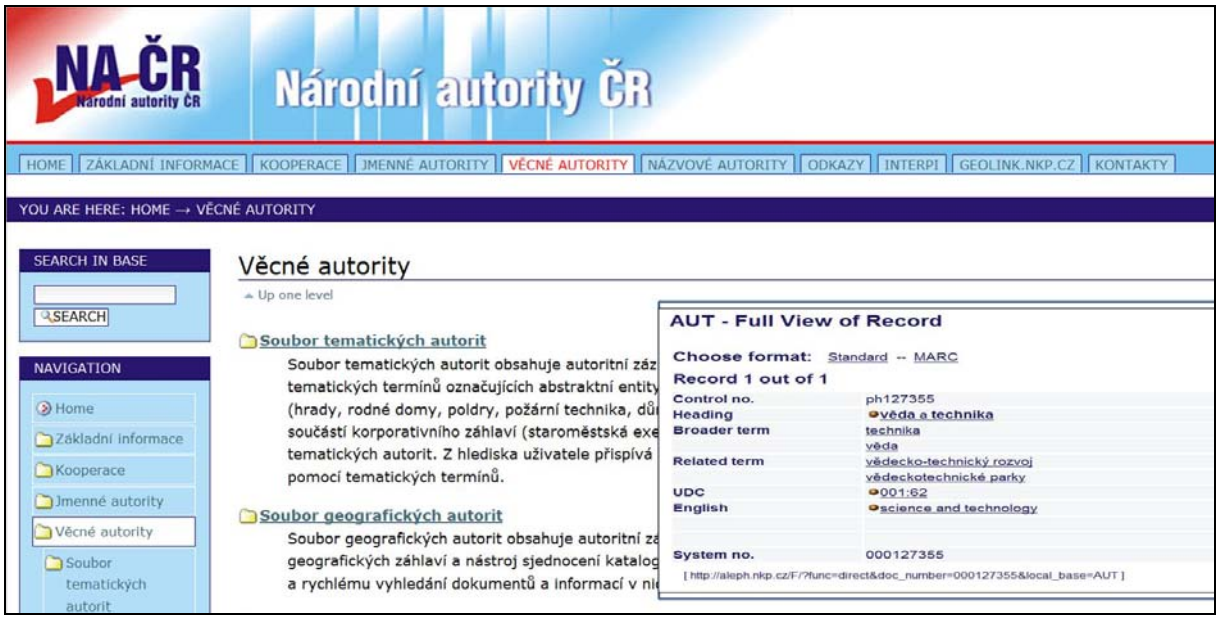


Figure 37 Example of the Czech National Authorities portal with topical authority terms displayed

[87] For more information, see Balíková 2009.

Figure 38 Example of subject data in a record of the NB of the Czech Republic

### *Eesti märksõnastik (EMS) - Estonian Subject Thesaurus*[88]

The Estonian National Bibliography (*Eesti Rahvusbibliograafia*) database ERB contains records for publications issued in Estonia in any language, publications in the Estonian language issued abroad, as well as works by Estonian authors and their translations regardless of the type of item. New publications are registered as deposit copies on their arrival at the National Library of Estonia; earlier publications are entered into the database retrospectively step by step.

EMS is a universal controlled vocabulary for indexing and searching various library materials in Estonian. The EMS includes 36 000 preferred terms and 16 000 variant terms – altogether 52 000 terms, divided into 48 subject fields.

[88]Nilbe, Sirje: *Semiautomatic Merging of Two Universal Thesauri: The Case of Estonia*, in: Landry, Patrice and Leda Bultrini, Ed O'Neill, Sandra K. Roe: *Subject Access: Preparing for the Future*. München: DeGruyter 2011, p. 51-57.

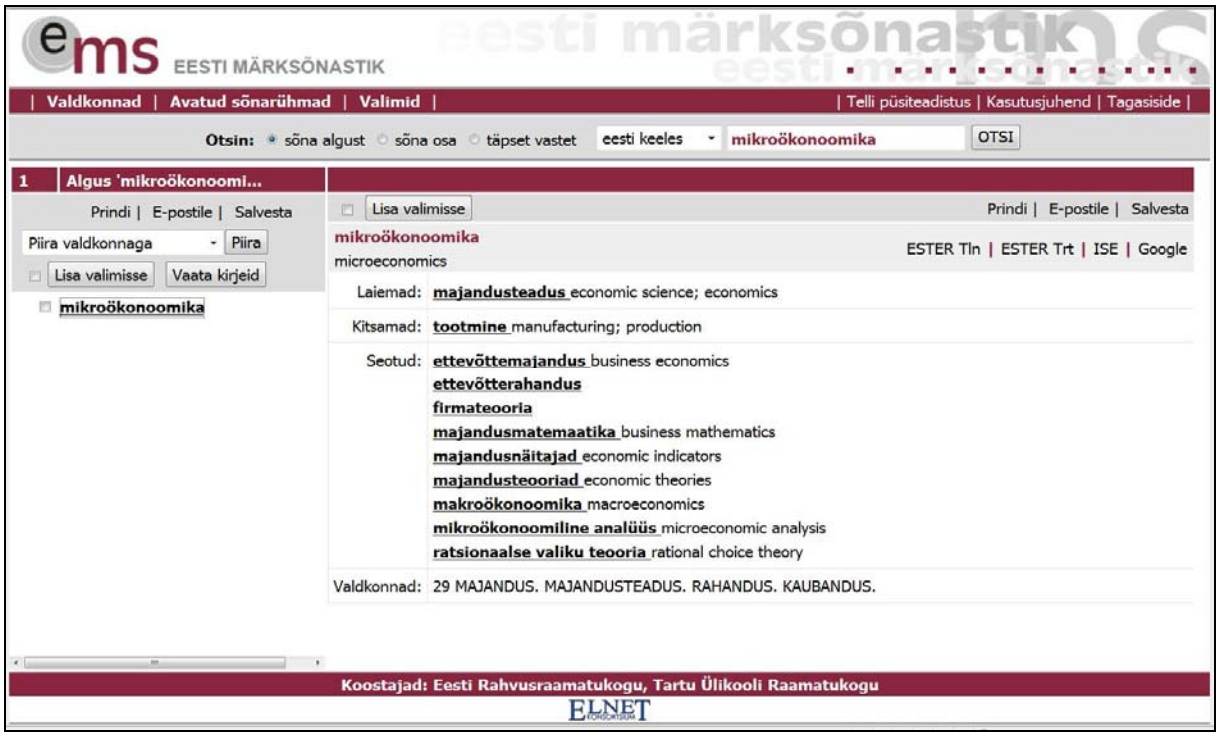


Figure 39 Example of the display of the Estonian Subject Thesaurus

The EMS replaces the previously used EÜM thesaurus in all libraries and it is used in the Estonian national bibliography database ERB. The Estonian Subject Thesaurus is freely accessible on the web.[89]

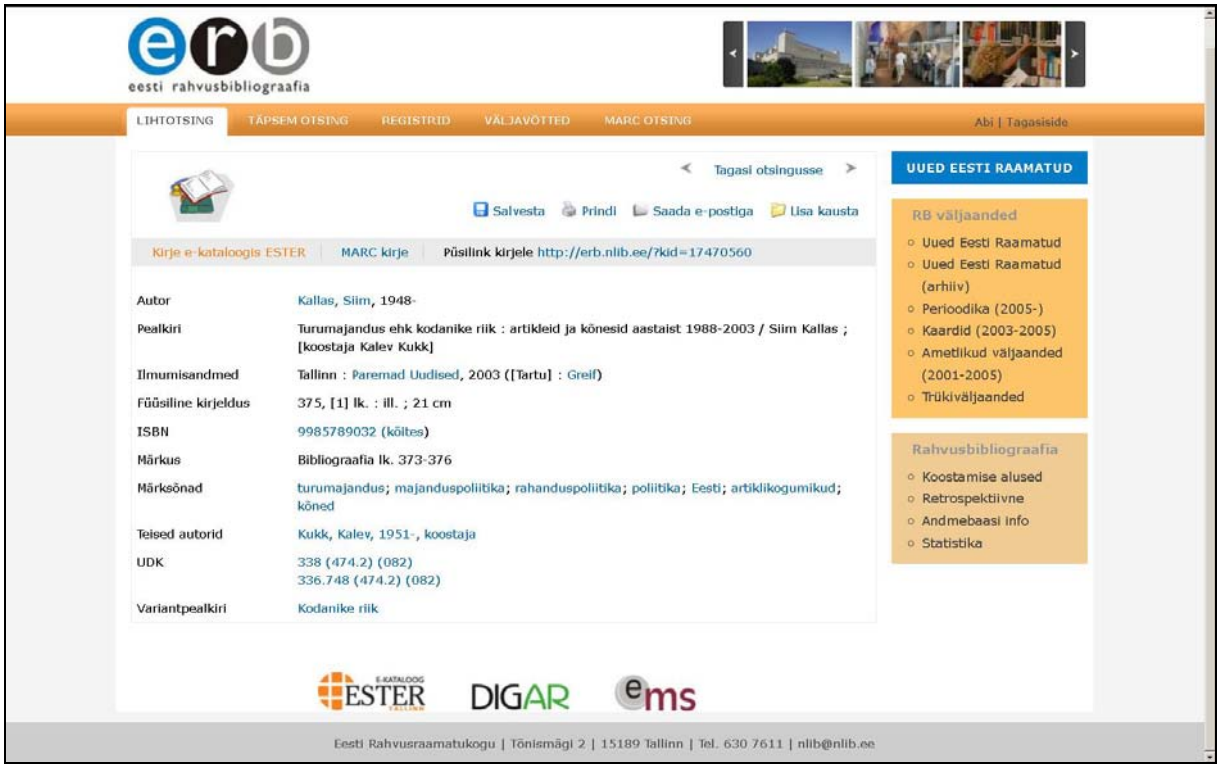


Figure 40 Example of subject data presented in a bibliographic record of the NB of Estonia

[89] Eesti märksõnastik, http://ems.elnet.ee/.

### *Gemeenschappelijke Trefwoorden Thesaurus (GTT)*[90]

The national indexing language in the Netherlands is named *GTT* (Joint Subject Headings Thesaurus). In this thesaurus the following types of descriptors can be found: common terms for concepts, geographical descriptors, names of corporate bodies, titles or names of works of art and culture, descriptors for bibliographic forms, descriptors for genres of fiction, names of "unica", i.e. singular events, drugs and other things that have a name.
It is used in the Royal Library and also by a group of other libraries including the main academic libraries in the Netherlands.

**Bibliotheekcatalogi (vorm)**
PPN: 088141756
Engelse descriptor: Library catalogs (form)
Bredere term: !088142264!Catalogi (vorm)
Verwante term: !088141659!Bibliografieën (vorm)
Extra ingang: Aanwinstenlijsten (vorm)

Figure 41 Example of a Gemeenschappelijke Trefwoorden Thesaurus authority term

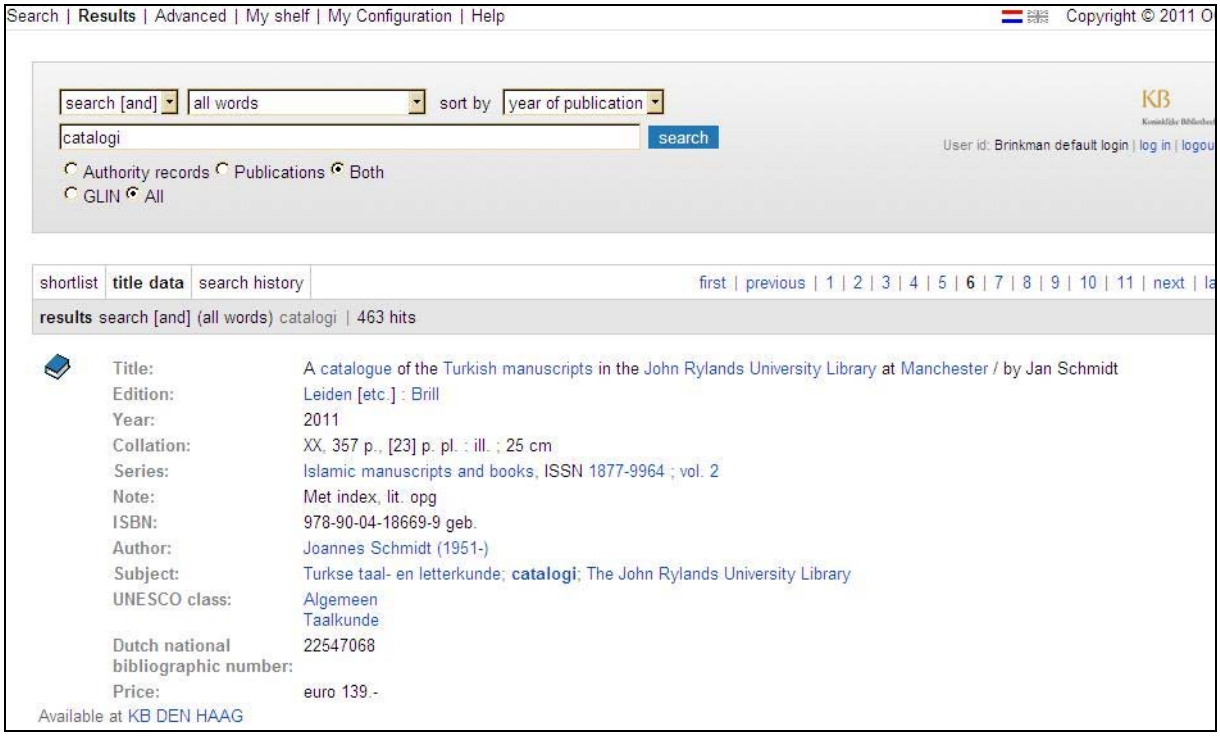



Figure 42 Example of subject headings presented in the NB of the Netherlands

[90] Riesthuis, G.J.A.: *GOO: Dutch National System for Subject Indexing*, http://archive.ifla.org/IV/ifla64/034-99e.htm.

### *Język Haseł Przedmiotowych Biblioteki Narodowej (JHP BN) — National Library of Poland Subject Headings*[91]

JHP BN is an indexing language developed and maintained by the National Library of Poland, used in the Polish current bibliography, the NL catalogues, in the OPACs of a majority of Polish public and educational libraries and also in many other libraries (research, academic, and school libraries). It is also used as a tool in numerous online bibliographic databases such as regional bibliographies and indexes of periodicals. JHP BN is a poly-hierarchical system based on main headings and subdivisions organised in the network of semantic relationships among terms (hierarchical and associative references). The vocabulary covers all subject areas, and the pre-coordinated indexing enables the indexer to express complex subjects. Currently it contains over 123 000 terms (including ca. 40 000 topics, 25 000 geographical names and 1500 topic and formal subdivisions).

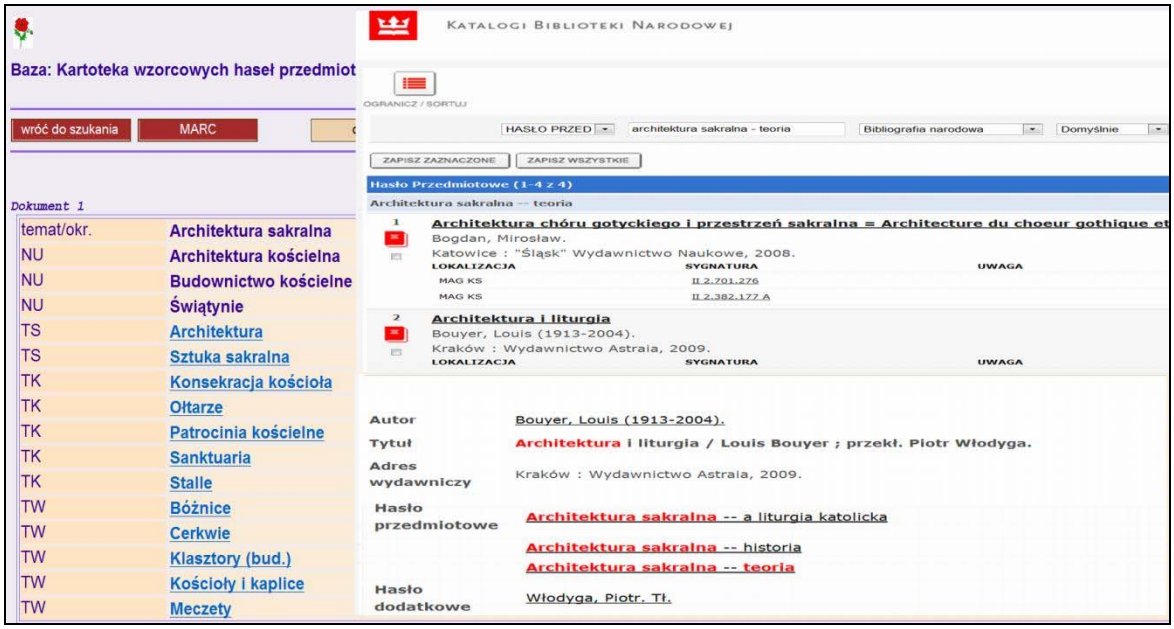


Figure 43 Example of subject headings in the NB of Poland

### *Nuovo Soggettario – The Italian general thesaurus and the National Bibliography of Italy*

The Nuovo soggettario is an Italian indexing language, consisting of a set of rules and a controlled vocabulary in the form of a general thesaurus.[92] It represents a system to be applied in both pre-coordinated and post-coordinated forms. The architecture of the system is organised in four parts: rules, vocabulary, syntax-pragmatics,[93] and archive of subject strings. The thesaurus currently consists of about 40 000 terms and the intention is to expand it to 60 000 terms.

[91] Klenczon, Wanda: *Język Haseł Przedmiotowych Biblioteki Narodowej (National Library of Poland Subject Headings) – From Card Catalogs to Digital Library. Some Questions About the Future of a Local Subject Headings System in the Changing World of Information Retrieval*, in: Landry, Patrice and Leda Bultrini, Ed O'Neill, Sandra K. Roe: *Subject Access: Preparing for the Future*. München: DeGruyter 2011, p. 169-179.
[92] Biblioteca nazionale centrale di Firenze: *Nuovo soggettario. Guida al sistema italiano di indicizzazione per soggetto. Prototipo del Thesaurus*. Milano, Bibliografica, ©2006 (stampa 2007). Nuovo soggettario: http://thes.bncf.firenze.sbn.it/index.html.
[93] The manual is available at http://thes.bncf.firenze.sbn.it/Manuale_applicativo.pdf.

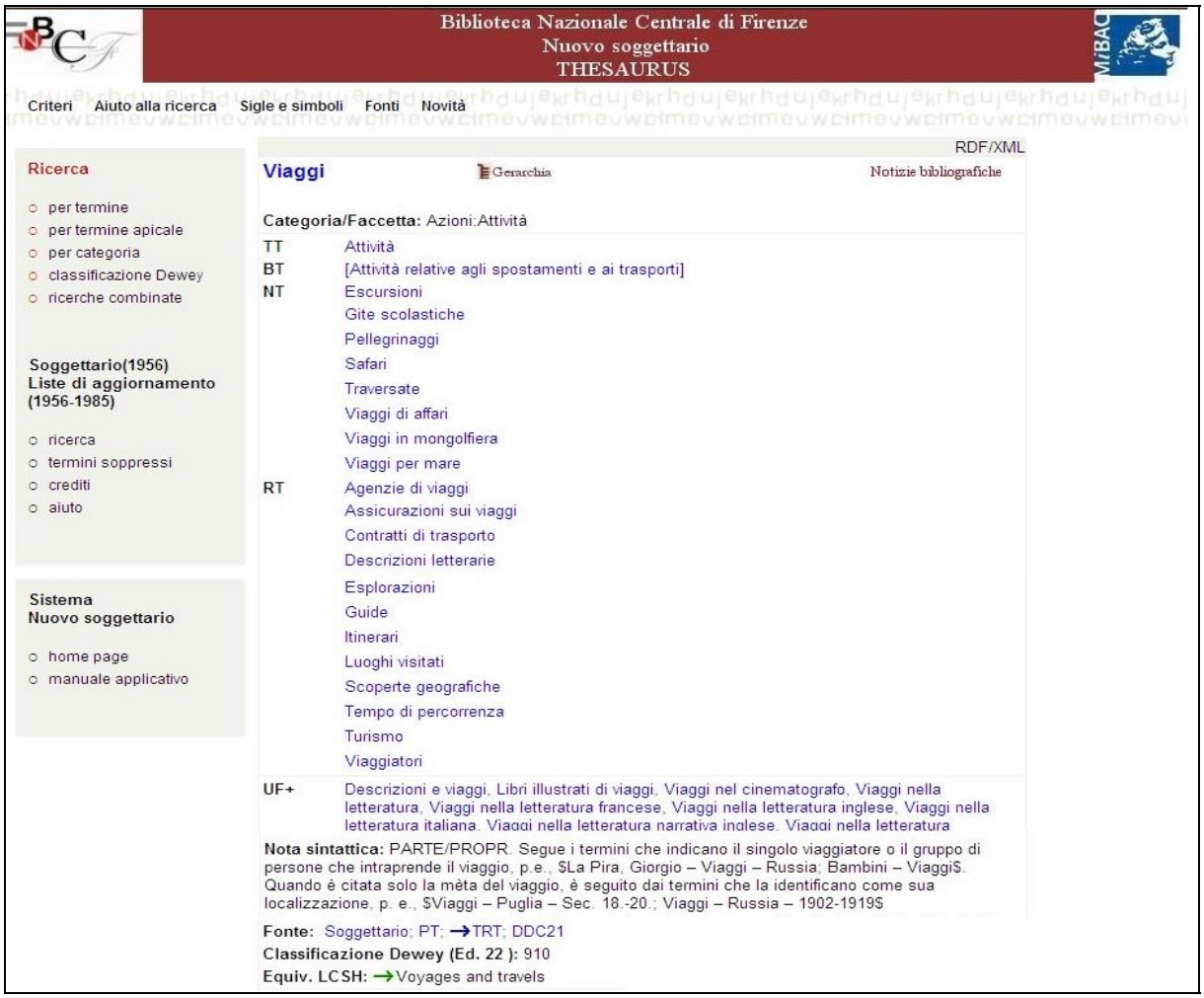


Figure 44 Example of a Nuovo soggettario authority record

The function Notizie bibliografiche shows the linked records in the National Central Library of Florence Catalogue, this example shows a typical application of syntactic relations, building one coextensive string for a complex subject, “1.Letteretura –Temi [:] Viaggi – 1945-2005”:

Figure 45 Example of the Nuovo soggettario headings (and also full DDC notations) presented in the NB of Italy and accessible at the Italian NL’s catalogue

The Dewey Decimal Classification is an important component of the Nuovo soggettario as the classification is able to represent a bridge to indexing systems in other languages. Linking DDC numbers to the completely structured terms of the Italian Nuovo soggettario

makes the maximum integration and interoperability between the two distinct indexing systems possible.[94]

### *Répertoire d'autorité-matière encyclopédique et alphabétique unifié (RAMEAU) and Bibliographie nationale française en ligne – the French National Bibliography*

When creating subject access points in the French national bibliography as well as in catalogues of the Bibliothèque national de France the authoritative system, RAMEAU, is applied.[95]

This subject heading list has been, since its beginnings, largely inspired by the Laval RVM, from which it originates, and secondarily by LCSH. The RAMEAU language now holds 256 000 terms of which 88 000 are common names and 46 000 geographical names. The systematic part of the indexing manual of RAMEAU is arranged by DDC hierarchies.

Figure 46 Example of subject data presented in the NB of France

### *Schlagwortnormdatei (SWD) – German Subject Headings Authority File*[96]

"The German subject headings authority file, SWD, provides a terminologically controlled vocabulary covering all fields of knowledge. The subject headings are determined by the German Rules for the Subject Catalogue. The authority file is produced and updated daily by participating libraries from around Germany, Austria and Switzerland. Over the last twenty years, it grew to an online database with about 550 000 headings. They are linked to other thesauri and also to French and English equivalents, and with notations of the Dewey Decimal Classification. Thus, it allows multilingual access and searching in dispersed, heterogeneously indexed catalogues. The vocabulary is not only used for cataloguing library materials, but also web-resources and objects in archives and museums."[97]

[94] Crociani, Laura, et al.: *Nuovo soggettario e DDC,* 2007. In *Giornata di presentazione del Nuovo soggettario,* Firenze (Italy),8 February 2007, http://eprints.rclis.org/handle/10760/10077.
[95] RAMEAU (Répertoire d'autorité-matière encyclopédique et alphabétique unifié), http://rameau.bnf.fr/.
[96] The Subject Headings Authority File SWD, http://www.d-nb.de/eng/standardisierung/normdateien/swd.htm.
[97] Jahns, Yvonne: *20 years SWD – German Subject Authority Data Prepared for the Future*. In: Landry, Patrice and Leda Bultrini, Ed O'Neill, Sandra K. Roe: *Subject Access: Preparing for the Future*. München: DeGruyter 2011, p. 61-75.

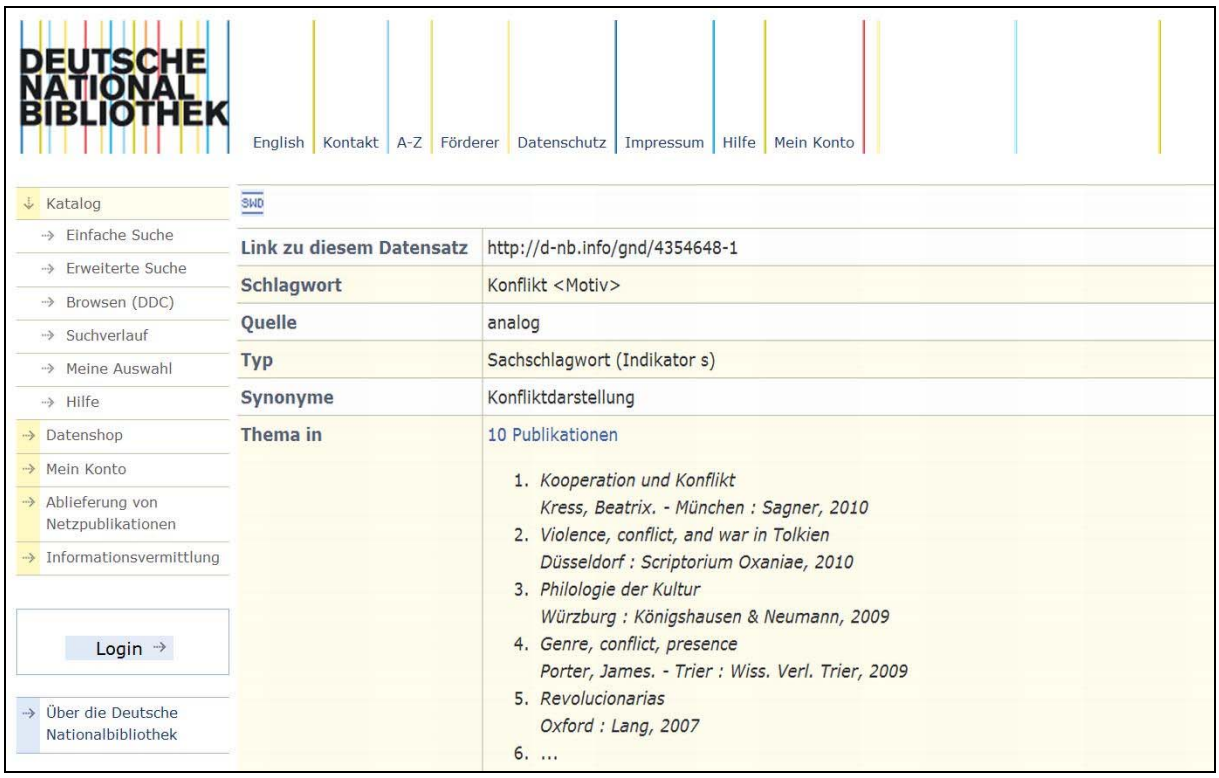


Figure 47 Example of a German SWD authority record

2010, A16 <000> Deutsche Nationalbibliografie

**000 Allgemeines, Wissenschaft**

<000> XA-DE-BY
http://d-nb.info/995823227 ∞ 09,N35
**Großer, Hartmut:** Top secret : Geheimprojekte und Technologien der Supermächte / Hartmut Großer. - Marktoberdorf : Argo, 2010. - 271 S. : Ill., graph. Darst., Kt. ; 23 cm . - Literaturangaben . - Inhaltsverzeichnis - ISBN 978-3-937987-87-3 Pp. : EUR 24.00 - EAN 9783937987873
*SW: UFO ; Geheimunternehmen*
*DDC: 001.942*

<000;610;150> XA-CH
http://d-nb.info/1001405730 ∞
**Huter, Carl:** Der Gebildete auf der Höhe : gesundes Urteil und starke Nerven / Carl Huter. Bearb., eingeleitet, mit Ill. vers. und hrsg. von Fritz Aerni. - Zürich : Carl-Huter-Verl., 2010. - 182 S. : Ill. ; 20 cm . - Literaturangaben - ISBN 978-3-03741-122-3 Pp.

**004 Informatik**

<004;650;S> XA-DE-NW
http://d-nb.info/958233527
**Basiswissen IT-Berufe** [Medienkombination]. - Troisdorf : Bildungsverl. EINS . - Teilw. im Verl. Stam, Köln
*SW: Informationstechnik ; Beruf ; Berufsschule ; Schulbuch*
*DDC: 004.6*
http://d-nb.info/999106864 10,N03

**nitz>:** Tagungsband / Chemnitzer Linux-Tage 2010 : 13. und 14. März 2010 / Team der Chemnitzer Linux-Tage ; Technische Universität Chemnitz. - Chemnitz : Univ.-Verl., 2010. - 136 S. : graph. Darst. ; 21 cm . - Literaturangaben . - Inhaltsverzeichnis - ISBN 978-3-941003-10-1 kart. : EUR 15.10
*SW: LINUX ; Kongress ; Chemnitz <2010>*
*DDC: 005.432*

<004;330> XA-DE-HE
http://d-nb.info/999102338 ∞ 10,N03
**Deck, Klaus-Georg:** Java-Grundkurs für Wirtschaftsinformatiker : die Grundlagen verstehen - objektorientierte Programmierung - fortgeschrittene Konzepte kennenlernen - betriebswirtschaftlich orientierte Beispiele ; [mit Online-Service] / Klaus-Georg Deck ; Herbert Neuendorf. - 2., aktualisierte und verb. Aufl. - Wiesbaden : Vieweg + Teubner, 2010. - XII, 456 S. : graph. Darst. ; 24 cm. - (Studium) . - Literaturangaben . - Inhaltsverzeichnis . - Inhaltstext - ISBN 978-3-8348-1222-3 kart. : EUR 31.95 - EAN 9783834812223
*SW: Java <Programmiersprache> ; Wirtschaftsinformatik*
*DDC: 005.133*

<004> XA-DE
http://d-nb.info/1000571130 ∞
**Grill, Ortrun:** Überzeugend präsentieren mit PowerPoint 2007 / Ortrun Grill ; Charlotte von Braunschweig. - 1. Ausg. - Bodenheim ; Wien : Herdt-Verl. für Bildungsmedien ; Dübendorf : Herdt-Verl. Schweiz, 2010. - 172 S. : Ill., graph.

<004> XA-DE
http://d-nb.info/1000058611 ∞
**Peyton, Christine:** Internet & E-Mail : [mit Windows 7 ; Sehen & Verstehen - das visuelle Praxisbuch] / Christine Peyton. - Düsseldorf : Data-Becker, [2010]. - 284 S. : Ill. ; 24 cm. - (Genial einfach!) . - Inhaltsverzeichnis - ISBN 978-3-8158-1904-3 kart. : EUR 14.95
*SW: Internet ; Ratgeber ⇅ E-Mail ; Ratgeber*
*DDC: 004.678 ⇅ 004.692*

<004> XA-DE
http://d-nb.info/1000571491 ∞
**Raith, Michael:** Windows 7 : Systembetreuer: Workstation / Michael Raith. - 1. Ausg. - Bodenheim ; Wien : Herdt-Verl. für Bildungsmedien ; Dübendorf : Herdt-Verl. Schweiz, 2010. - 189 S. : Ill. ; 29 cm. - (Herdt Classics) . - Inhaltsverzeichnis - kart.
*SW: Windows 7*
*DDC: 005.44*

<004> XA-DE
http://d-nb.info/1000876144 ∞
**Reuscher, Dominik:** PC & Windows 7 für Einsteiger : [Sehen & Verstehen ; das visuelle Praxisbuch] / Dominik Reuscher. - Düsseldorf : Data-Becker, [2010]. - 288 S. : Ill. ; 19 cm. - (Genial einfach!) . - Inhaltsverzeichnis - ISBN 978-3-8158-1902-9 kart. : EUR 14.95
*SW: Personalcomputer ; Windows 7*
*DDC: 005.446*

<004> XA-DE-HE
http://d-nb.info/999819429 ∞ 10,N05
**Ringels, Holger:** Smart clients mit Eclipse

Figure 48 Example of subject data presented in the NB of Germany in PDF format

### *Yleinen Suomalainen Asiasanasto (YSA) and FENNICA — The Finnish General Thesaurus and the National bibliography of Finland*

The National Library of Finland is responsible for the development and updating of two universal Finnish thesauri: Yleinen suomalainen asiasanasto (YSA = Finnish General Thesaurus), Allmän tesaurus på svenska (Allärs = Swedish translation of the Finnish General Thesaurus), and two specialised thesauri Musiikin asiasanasto (MUSA = Finnish Music Thesaurus) and Specialtesaurus för musik (CILLA = Swedish translation of the Finnish Music Thesaurus). An online version called VESA includes all the above-mentioned thesauri. It is freely available on the Internet.[98]

Figure 49 Example of a Finnish General Thesaurus authority record

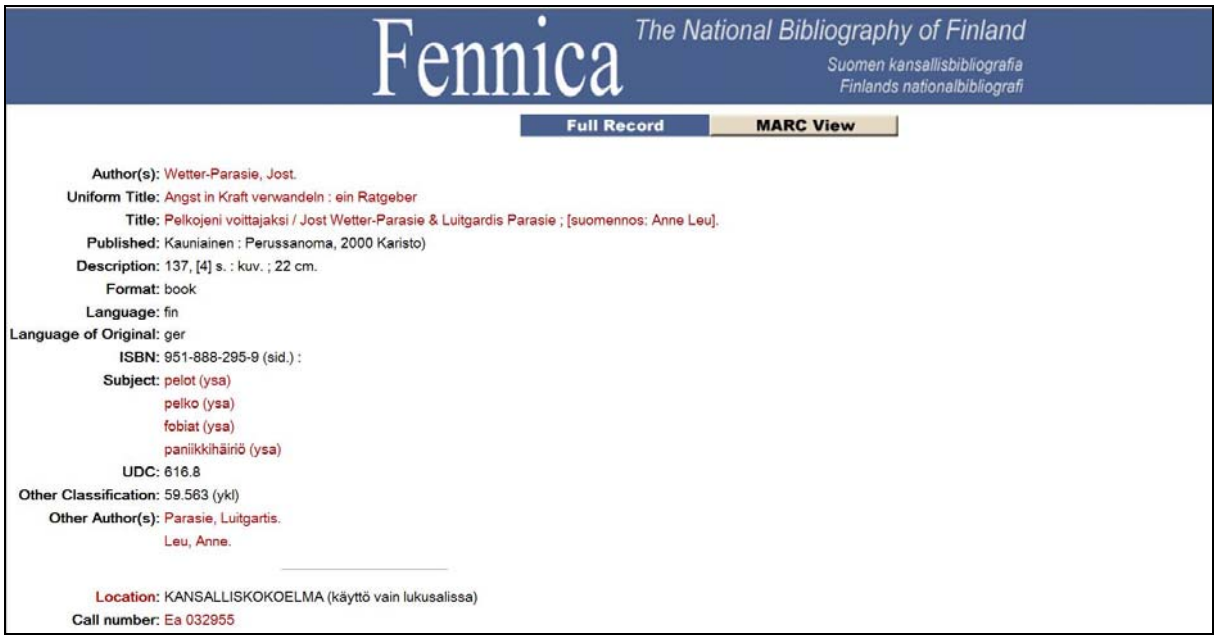


Figure 50 Example of a bibliographic record in the NB of Finland

[98] VESA - verkkosanasto/webbtesaurus, http://vesa.lib.helsinki.fi

## 7.2 National examples of indexing level policies

As demonstrated in *chapter 5*, the level of indexing to be applied is determined by a combination of factors such as the extent of national content, the type or nature of the resource, and the NBA's collection development and selection criteria priorities. The number of levels of descriptive and subject cataloguing differ, varying from 3 to 4 depending on the principles mentioned above.

Here are a few examples.

***AUSTRALIA***

Three levels of cataloguing — high, medium, and brief — are used in the Australian NB. The levels determine the amount of detail and description provided in the catalogue record.[99]

High level cataloguing — full descriptive data and all descriptive and subject access points and notes identifying the item and covering all the characteristics useful for discovery. LCSH terms are assigned (generally two or three, maximum six); full classification notations and data in coded form are usually included. High level cataloguing is provided for most Australian publications, original materials and Asian vernacular resources.

Medium level cataloguing — records contain one or two subject headings, limited notes and coded data; classification notations are usually included.
Medium level cataloguing is provided for Australian resources that require fewer access points for discovery purposes like novels and recreational publications and overseas materials (except Asian vernacular materials).

Brief level cataloguing — only brief description and one or two access points such as ISBN and author name; no subject headings are assigned, a shortened classification notation may be included (for call number purposes).

***CANADA***

Four levels of cataloguing have been used in *Canadiana* since 1996 — full, core, minimal, and abbreviated.[100] The levels of cataloguing treatment apply to all formats of material (print, audiovisual, electronic, etc.). There is also an additional access level for digital resources.[101] Furthermore, a priority system is used to determine the order in which incoming resources are processed and catalogued. The Canadian system corresponds partially to the system suggested by the Bibliography Guidelines which established four levels — authoritative, comprehensive, enhanced, and basic.

Full Level Cataloguing — all applicable subject and descriptive access points are assigned, all notes as appropriate for the item; all classification numbers in DDC (full) and LCC are assigned; standardised subject headings (LCSH, CSH, RVM); authority records are created for headings.
Full level treatment is given to all publications for LAC's Reference, Staff Resource Centre, Canadian Genealogy Centre collections, current children's books, aboriginal and

[99] National Library of Australia Cataloguing Policy, http://www.nla.gov.au/policy/cataloguing/NLACataloguingPolicy.html.
[100] Policy on Levels of Cataloguing Treatment for Publications Acquired by LAC: http://www.collectionscanada.gc.ca/cataloguing-standards/040006-2201-e.html
[101] Supplementary information on cataloguing treatment of digital published resources, http://www.collectionscanada.gc.ca/cataloguing-standards/040006-2201.04-e.html#a

multicultural publications, resources of special heritage value in the areas of Canadian music, literature, and history.

Core Level Cataloguing — LCSH headings are generally limited to a maximum of two; DDC and LCC numbers are assigned; authority records are created for headings.
Core level cataloguing is provided for most current music recordings and federal government publications.

Minimal Level Cataloguing — no subject headings are assigned; generally abridged DDC numbers are assigned only for materials listed in *Canadiana*; LC classification numbers are assigned (with exceptions); authority records are created for headings (exception: non-*Canadiana* or pre-Legal Deposit *Canadiana* material).
Minimal level treatment is provided for provincial government publications, foreign music recordings, rare book collections, conference proceedings, research reports, and educational materials.

Abbreviated Level Cataloguing — no subject headings are assigned; LC classification numbers are assigned only if needed for shelving purposes; no DDC numbers are assigned; no authority records are created.
This cataloguing level is given to older publications of all types, pamphlets, municipal government publications, foreign and international official publications, non-music sound recordings, mass market genre fiction, newsletters, and publications of interest to a limited audience.

***CZECH REPUBLIC***
In order to ensure consistent and current access to all NL collections, the Czech NL defines three basic levels of subject cataloguing treatment: enhanced (with sub-groups full and core), minimal, and sub-minimal.[102]

Enhanced / Full level cataloguing — all applicable authoritative subject and genre/form access points are assigned: CZENAS topical and geographical terms - generally three or four, and a maximum of ten (for very complex themes or documents); CZENAS genres/form terms – maximum three or four (providing access in fiction); UDC/MRF class marks – equivalents of terms; Conspectus Categories - one or two (possibility to assign two is defined in the instruction); Coded information – standards GAG and chronological codes; English equivalents to subject terms.
Full level cataloguing has been provided for printed books since 1995 and selected online resources.

Enhanced / Core level cataloguing — main authoritative subject and genre/form access points are assigned: CZENAS topical and geographical terms (maximum three); CZENAS genres/form terms (one or two); UDC/MRF or UDC top level class marks (one to three) or Conspectus Category (one).
The material for core level cataloguing includes printed music, cartographic documents, graphics, electronic, and audio resources.

Minimal level — one controlled access point is assigned: UDC/MRF or UDC top level or Conspectus category; possibly free keywords or uncontrolled subject headings strings.
Minimal level cataloguing is given to most documents issued between 1945 and 1995.

Sub-minimal level — no controlled subject access is provided: possibly free keywords or uncontrolled subject headings strings or no subject access at all.
Sub-minimal level cataloguing is provided for most traditional documents issued till 1945.

[102] National Library of the Czech Republic Subject cataloguing. Subject authorities, http://www.nkp.cz/_en/pages/page.php3?page=fond_subjectcataloguing_eng_vp.htm

## *7.3 National examples of published indexing policies*

Best practice for subject access is a method and process that depends on the particular conditions of an individual NBA in subject analysis area, and that may have to be modified or adapted for similar circumstances in other information institutions.
Therefore, a well-designed, transparent, and publicly accessible indexing policy is very important because it supports the main goals/purposes of indexing and classification: to ensure a standard, consistent, easier, and more precise access to the intellectual content of documents (*see chapter 6).*

Below some URLs are given where there are national examples of published indexing policies[103]:

***Denmark***
http://www.dbc.dk/om_dbc/nationale_opgaver/nationalbibliografi_old/nationalbibliografi-mappe/regler_standarder

***France***
http://www.bnf.fr/en/professionals/anx_cataloging_indexing/a.indexing_policy.html
http://www.bnf.fr/en/professionals/anx_cataloging_indexing/a.subject_reference_systems.html

***Switzerland***
http://www.nb.admin.ch/nb_professionnel/erschliessen/01495/01496/index.html?lang=en

[103] A comprehensive list of registered national bibliographies can be found at http://www.ifla.org/en/node/2216

# 8. List of recommendations

***Subject access standards and tools (see chapter 3)***

1 The NBA should play a leading role in the responsibility to develop, maintain and promote subject indexing rules and standards at the national level.
2 Consider international cooperation in choosing a national indexing tool. Adhere to international standards and share/use existing tools wherever possible.
3 Use controlled indexing, with both verbal indexing *and* classification.
4 Provide access to materials listed in the NB in the language(s) and script(s) of the country.
5 Make controlled as well as uncontrolled indexing available to the users.
6 Use a verbal indexing scheme covering all subjects and fields of knowledge.
7 Use an international classification scheme.
8 Provide content enriched data as a supplement to other subject access tools.

***Functionality and interface of national bibliographies (see chapter 4)***

9 Display and browse NB records by subjects, using either broad categories or top classification hierarchies.
10 Display headings and classification notations in the bibliographic records.
11 Provide full and user-friendly subject search functionalities.

***Application scenarios (indexing / access levels) (see chapter 5)***

12 Decide on different levels of subject cataloguing for different kinds of publications, based on the significance of the resource. Define and publish pragmatic selection criteria.
13 Use two levels for subject indexing:

- A full level, providing indexing with enhanced access by authoritative subject terms, as well as classification notations;
- A minimal level, providing for most of the resources at least one controlled subject term and/or classification notations, shortened if necessary.

***Indexing policies of National Bibliographic Agencies (see chapter 6)***

14 Keep the indexing policy clear and easily understandable to all user groups.
15 Publish the policy for internal and external use. Publish the latter on the web, in the language chosen by the NBA and possibly in English if the language chosen is not English.
16 Indicate what subject access tools are used.
17 Indicate what kinds of resources are indexed.
18 Indicate the levels and specificity of indexing.
19 Try to keep the indexing policy consistent over time to ensure uniform access to resources.
20 Update the indexing policy every time any changes are introduced and show clearly the period each policy covers.

# Glossary

**Aboutness**

The relation between a *work* and its *subject* matter. Aboutness is a *concept* that is central to the field of *knowledge organization*, and many authors have made significant contributions to the understanding of the nature of work-subject relations. [FRSAD]

**Abstract**

A brief summary of the content of a *resource* (book, article, speech, report, dissertation, etc.).
An abbreviated, accurate representation of the *content* of a *work* without added interpretation and criticism. [ANSI/NISO Z39.29-2005]

**Access point**

A name, *term*, code, etc., through which bibliographic or authority data is searched and identified. [FRAD, ICP]
*See also Controlled access point*

**Authority control**

Means used to insure consistency in representing a value — a name of a person, a place name, or a *term* or code representing a *subject*, used as *access points* in *information retrieval*. Authority control is achieved manually or semi-automatically by means of an authority file. [FRSAD]

A set of rules or procedures that assist in the maintenance of consistent forms of names or *terms* within a database. [DCMI Glossary]

**Authority file**

A collection of *authority records*.
The file contains data about access points – names, titles, or subject terms – that have been authorised for use in *bibliographic records*. [FRSAD]

**Authority record**

A set of data elements that identifies an *entity* and can be used to facilitate access to the *authorised access point* for that *entity* or the display of any *access point* for the *entity.* [ICP]

A record that registers the preferred form of a personal or corporate name, geographic region or subject term. It may indicate variant forms of the established heading; biographical or cultural information associated with the heading, as well as related headings. [DCMI Glossary]

**Authorised access point**

The preferred *controlled access point* for an *entity;* established and constructed according to rules or standards. [ICP]

**Automatic indexing**

A method of indexing in which an algorithm is applied by a computer to the title and/or text of a *work* to identify and extract words and phrases representing *subjects*, for use as headings under which entries are made in the index. [ODLIS[104]]

[104] *ODLIS – Online Dictionary for Library and Information Science* by Joan M. Reitz, http://lu.com/odlis/search.cfm

**Bibliographic control**

The identification and location of items of recorded information described and listed in an orderly arrangement. The aim is to provide access to the bibliographic universe.

**Bibliographic description**

A set of bibliographic data identifying a *bibliographic resource*. [ICP]

**Bibliographic record**

A set of data elements that describes and provides access to a *bibliographic resource* and identifies related *works* and expressions. [ICP]

**Bibliographic resource**

An *entity* within the realm of library and similar collections consisting of the products of intellectual or artistic endeavour. Bibliographic resources in the *FRBR* model are the Group 1 entities: work, expression, manifestation, and item. [ICP]

**Classification**

Grouping together of similar or related things and the separation of dissimilar and unrelated things and the arrangement of the resulting groups in a logical and helpful sequence. [BS 8723-1:2005]

The act of arranging/distributing things into classes, groups or categories of the same type, here using library *classification schemes.*

**Classification scheme**

A method of organisation according to a set of pre-established principles, usually characterised by a notation system and a hierarchical structure of relationships among the entities. [ANSI/NISO Z39.19-2005]
A logical scheme for the arrangement of knowledge, usually by *subject*. Classification schemes are alpha and/or numeric. [DCMI Glossary]

***Classification system see Classification scheme***

***Collaborative tagging see Social Tagging***

**Collection**

1. A real or virtual set of two or more *works* or parts of *works* combined or issued together. 2. A real or virtual set of *bibliographic resources* held or created by a given institution. [ICP]

**Concept**

1. A unit of thought, formed by mentally combining some or all of the characteristics of a concrete or abstract, real or imaginary object. Concepts exist in the mind as abstract *entities* independent of *terms* used to express them. [ANSI/NISO Z39.19-2005]
2. An abstract notion or idea, encompassing a comprehensive range of abstractions that may be the *subject* of a *work*: fields of knowledge, disciplines, schools of thought, theories, processes, techniques, practices, etc. [FRBR, FRAD, ICP]

***Content analysis see Subject analysis***

***Content enriched (meta)data see Enriched cataloguing***

**Controlled access point** An *access point* recorded in an *authority record*. Controlled access points include authorised forms of names as well as those designated as variant forms. [ICP]

**Controlled vocabulary** A prescribed set of consistently used and carefully defined *terms*. [DCMI Glossary]
In *subject analysis* and retrieval, the use of an authorised subset of the language as indexing *terms, e.g., thesauri, subject headings lists, classification schemes*, and other subject authority systems. Such systems have been referred to as "controlled vocabularies", "structured vocabularies", "concept schemes", "encoding schemes", and "*knowledge organization systems*" interchangeably depending on their function and structure, as well as according to the communities that use them. [FRSAD]

**Copy cataloguing** The process of adapting an existing catalogue record prepared by another library or agency.

**DDC** *Dewey Decimal Classification*
*see chapter 3.5.1 for detailed information*
*see chapter 7.1.1.1 for national application examples*

**Descriptive cataloguing** The part of the cataloguing that provides both descriptive data and non-subject *access points.* [ICP]

**Descriptor** A *term* chosen as the preferred representation for a *concept* or feature in an index [ANSI/NISO Z39.14-1997].
Equivalent of "*preferred term*" [ANSI/NISO Z39.19-2005]
In *indexing*, a word, group of words, phrase, or symbol used to designate the *subject* of a *work*.
Descriptors are used to group together *resources* about the same *subject* under one standard heading. They consist of *controlled vocabulary*.
*See also Keyword, Preferred term*.

**Disambiguation** Disambiguation is the clarification that follows from the removal of ambiguity. Word sense disambiguation is associated with homonyms and polysemy. Such disambiguation is a normal procedure in *controlled vocabularies*. [Hjørland [105]]

**Enriched cataloguing** The enhancement of online library catalogue records with tables of contents, sample text, indexes, reviews, cover images, etc.

**Entity** A class of key objects of interest to users of information, defined at as high level as possible, and adopted to develop

[105] *Lifeboat for Knowledge Organization* by Birger Hjørland, Concepts A-Z, http://www.iva.dk/bh/lifeboat_ko/List%20of%20concepts.htm

the conceptual models of bibliographic data FRBR, FRAD, FRSAD. [FRBR]

***Exhaustivity see Indexing exhaustivity***

**FRBR** *Functional Requirements for Bibliographic Records*
A conceptual entity-relationship model developed by IFLA that relates user tasks of retrieval and access in online library catalogues and bibliographic databases from a user's perspective.
http://www.ifla.org/files/cataloguing/frbr/frbr_2008.pdf

**Free text searching** The use of *natural language* in *information retrieval* (rather than *terms* selected from a list of *controlled vocabulary* such as an authorised *subject heading list* or *descriptors*).
*See also Controlled vocabulary, Full-text searching, Keyword*

**FRSAD** *Functional Requirements for Subject Authority Data*
A conceptual model developed by IFLA; the third part of the *FR* family of models, focusing on the "has as subject"-relationship, i.e. the *aboutness* of *work*.
http://www.ifla.org/files/classification-and-indexing/functional-requirements-for-subject-authority-data/frsad-final-report.pdf

**Full-text** An electronic *resource* (e.g. the bibliographic database) that provides the entire text of a single document (in addition to the *bibliographic description*).

***Full-text retrieval see Full-text searching***

**Full-text searching** Methods for searching textual resources where the entire text is matched against a query.

**Genre** A type, mood, or style of literature, music, film, art etc., a form (novel, short story, poetry, drama, etc.) or theme (adventure, fantasy, horror, mystery, romance, science fiction, western, etc.) of literary works.

**Granularity** The level of detail at which an information object or *resource* is viewed or described. [DCMI Glossary]

***Heading see Subject heading***

**ICBNS** *International Conference on National Bibliographic Services*

**ICP** *Statement of International Cataloguing Principles*
International agreement on a set of principles underlying the cataloguing practices for the digital age, providing basic rules, intended to guide a standardised development of cataloguing codes. The principles can be applied to bibliographies and other data files created by libraries, archives, museums, and other communities.
http://www.ifla.org/VII/s13/icc/#imeicc

***Indexing see***
***Subject indexing***

**Indexing exhaustivity** Defined as the number of different *topics* indexed.
*See also Indexing specificity*

**Indexing language** A *controlled vocabulary* or *classification system* and the rules for its application. An indexing language is used for the representation of *concepts* dealt with in documents and for the retrieval of such documents from and *information retrieval and storage* system. [ISO 5127/1]
An indexing language is an artificial language used for subject *classification* / *indexing* of documents.
Mostly divided into *classification systems* and *verbal indexing* languages.

**Indexing policy** A plan of action chosen by a bibliographic agency in *subject indexing*; it determines which indexing tools are adopted and which documents are catalogued by *subjects.* The principal aim of such a policy is to provide coherent research results.

**Indexing specificity** The degree to which the meaning of a *subject heading* or *descriptor* or *classification notation* matches in breadth one of the major *subjects* of the document to which it is assigned. An assigned *term* can be specific, whether broad or narrow, as long as it closely matches a main *subject* of the *work*. [ODLIS]
Capability of a structured vocabulary to express a subject in depth and in detail. [BS 8723-1:2005]
The *indexing language* specificity is the ability of the index language to describe topics precisely. Sometimes defined as the level of *precision* with which a document is actually indexed. [Hjørland]

***Indexing tools see***
***Subject access tools***

***Information retrieval see***
***Information storage and retrieval***

**Information storage and retrieval** A set of operations and the associated equipment, software, and documentation by which content objects are indexed and the data are stored, so that selected content objects can be retrieved in response to requests employing commands that can be handled by the system. [ANSI/NISO Z39.19-2005]

**ISBD** *International Standard Bibliographic Description*
Specifies the requirements for the description and identification of the *resource*, assigns an order to the elements of the description, and specifies a system of punctuation for the description.
http://www.ifla.org/VII/s13/pubs/cat-isbd.htm

**Keyword** A word occurring in the natural language of a document that

is considered significant for indexing and retrieval. [ANSI/NISO Z39.19-2005]
A word indicating a main *concept* or *subject* discussed in a *resource*; used in searching catalogues and databases. Keywords are *natural language*, meaning there is no one standard way to express the subject.
*See also Descriptor, Subject heading.*

**Knowledge organization**

Knowledge organization (KO) or organization of knowledge, organization of information or information organization, designates a field of study related to Library and Information Science (LIS). In this meaning KO is about activities such as document description, *indexing* and classification performed in libraries, databases, archives etc. [Wikipedia]

**Knowledge organization system**

*Thesauri*, *subject headings* lists, *classification schemes*, and other *subject authority* systems. Such systems have been referred to as "*controlled vocabularies*", "structured vocabularies", "concept schemes", "encoding schemes", and "knowledge organization systems" interchangeably depending on their function and structure as well as according to the communities that use them. [FRSAD]

***KO see Knowledge organization***

***KOS see Knowledge organization system***

**LCC**

*Library of Congress Classification*
*See chapter 3.5.3 for detailed information*
*See chapter 7.1.1.3 for national application examples*

**LCSH**

*Library of Congress Subject Headings*
*See chapter 3.4.1 for more information*
*See chapter 7.1.2.1 for national examples*

**MeSH**

*Medical Subject Headings*
A comprehensive *controlled vocabulary* for the purpose of *indexing* journal articles and books in the life sciences; it can also serve as a *thesaurus* that facilitates searching. It is created and updated by the United States National Library of Medicine (NLM). MeSH can be browsed and downloaded free of charge on the Internet: http://www.nlm.nih.gov/mesh/. Originally in English, MeSH has been translated into numerous other languages and allows retrieval of documents from different languages.

**Metathesaurus**

An arranged list of the specialised vocabulary of an academic discipline or group of related disciplines, indicating the *semantic relations* between *terms*, designed to integrate a number of separate *controlled vocabularies* (*thesauri*) developed independently to facilitate information retrieval. A prime example is the UMLS Metathesaurus under development by the National Library of Medicine (NLM) as part of its Unified Medical Language System to integrate into

a single system the terminology of the biomedical sciences.[ODLIS]

**Natural language**

A human language in which the structure and rules have evolved from usage, usually over an extended period of time, as opposed to an artificial language based on rules prescribed prior to its development and use, as in a computer language. In search software designed to handle input expressed in natural language, the user may enter the query in the same form in which it would be spoken or written ("Where can I find information about Frederick Douglass?" as opposed to the search statement "Frederick Douglass").[ODLIS]
A language used by human beings for verbal communication. Words extracted from natural language texts for *indexing* purposes without *vocabulary control* are often called *keywords*. [ANSI/NISO Z39.19-2005]
*See also Controlled vocabulary, Keyword*

***Non-preferred term See Variant term***

**Notation**

Numerals, letters, and/or other symbols used to represent the main and subordinate divisions of a *classification scheme*.
Set of symbols representing *concepts* or *relations*. [BS 8723-1:2005]

**Ontology**

A hierarchical structure that formally defines the *semantic relationship* of a set of *concepts*. Used to create structured / *controlled vocabularies* for the discovery or exchange of information. A *thesaurus* is an example. [DCMI Glossary]

***Post-coordinated indexing see Post-coordination***

**Post-coordination**

System of *indexing* in which the *subject* of a document is analysed into its constituent *concepts* by an indexer but the *preferred terms* so allocated are not combined until they are selected by a user at the search stage. [BS 8723-1:2005]
The combining of *terms* at the searching stage rather than at the *subject heading list* construction stage or *indexing* stage. [ANSI/NISO Z39.19-2005]
Combination of individual *terms* into compound or complex *subjects* at the point of *retrieval*.
*See also Pre-coordination.*

**Precision**

In *information retrieval*, a measure of search effectiveness, expressed as the ratio of relevant records or documents retrieved from a database to the total number retrieved in response to the query; Synonymous with relevance ratio [ODLIS].
*See also Pre-coordination, Recall*

**Pre-coordinated indexing see Pre-**

**coordination**

**Pre-coordination**

System of *indexing* in which the *preferred terms* allocated to a particular document are syntactically combined in one or more sequences representing the only combinations available for *retrieval* purposes. [BS 8723-1:2005]
The formulation of a multiword *heading* or the linking of a heading and subheadings to create a formally controlled, multi-element expression of a *concept* or object. Pre-coordination is often used to ensure logical sorting of related expressions. [ANSI/NISO Z39.19-2005]
Combination of individual *concepts* into compound or complex *subjects* at the point of *subject indexing*.
*See also Post-coordination.*

**Preferred term**

*Term* used to represent a *concept* [BS 8723-1:2005]
One of two or more synonyms or lexical variants selected as a term for inclusion in a *controlled vocabulary*. [ANSI/NISO Z39.19-2005] Also known as *descriptor.*
The name for an *entity* chosen according to rules or standards, used as the basis for constructing an *authorised access point* for the entity.[ICP]
*See also Descriptor, Non-preferred term*

**Query**

A request submitted as input in a search of an online catalogue or bibliographic database to retrieve records or *resources* relevant to the user's information needs. Some information storage and retrieval systems allow queries to be submitted in *natural language*, but most systems require the user to formulate search statements in the artificial language used for *indexing* and in syntax acceptable to the search software. The query is an approximation of the information need that provides the impetus for the search. [ODLIS]

**Recall**

A measure of a search system's ability to retrieve all relevant content objects. Usually expressed as a percentage calculated by dividing the number of retrieved relevant content objects by the number of all relevant content objects in a collection. [ANSI/NISO Z39.19-2005]
In *information retrieval* a measure of search completeness. A perfect recall means that all relevant documents were retrieved by the search.
*See also Precision.*

**Related term**

A *term* or a *descriptor* that is closely semantically related to a given term. In *thesauri* related terms are often coded RT and used for other kinds of *semantic relations* than synonymy (USE; UF), homonymy (separated by parenthetical qualifier), generic relations and partitive relations (BT; NT). Related terms may, for example express antagonistic relations, active/passive relations, causal relations, locative relations, paradigmatic relations. [Hjørland]

**Relationship**

A specific connection between *entities* or their instances [FRBR, ICP]

**Resource** Any physical or virtual *entity* that provides information
*See also Work*

***Retrieval see Information storage and retrieval***

**Semantic relations** Relations between *concepts* or meanings (not between terms). In *information retrieval* the basic functions for *semantic relations* may be conceived as contributing to the increase of *recall* and *precision.* [Hjørland]

**Semantic web** A term coined by Tim Berners-Lee that views the future Web as a web of data, like a global database. The infrastructure of the Semantic web would allow machines as well as humans to make deductions and organise information. The architectural components include semantics (meaning of the elements), structure (organisation of the elements), and syntax (communication).
http://www.w3.org/DesignIssues/Semantic.html [DCMI Glossary]

**Social tagging** User generated tags to annotate and categorise content of *works*.

***Specificity see Indexing specificity***

**Subject** The theme or *topic* of a work
*See also Aboutness; Subject analysis*.

**Subject access** A way enabling people to identify, locate, and use the information that will meet their educational, occupational, and personal needs.

**Subject access tools** Systems and vocabularies representing and/or signifying the themes or *topics* treated in *resources.* In general classificatory and verbal tools are distinguished. Designed to help users to find their ways about the mass of published information.
*See also Classification schemes, Verbal indexing*

**Subject analysis** The process of identifying the intellectual content of a *work*. The results may be displayed in a catalogue or bibliography by means of *notations* or as *subject headings*.

**Subject authority control** The activity of ensuring consistency of *terms* or codes representing a *subject,* used as *subject access points* in *information retrieval*. Ensuring that all publications about a *subject* can be retrieved by and displayed under the same *subject heading* [FRSAD]

**Subject authority data** Information about *subjects* from *authority files*.
Data in a subject authority system are connected through *semantic relationships*, which may be expressed in *subject authority records* or generated according to specific needs

(e.g., presenting the broader and narrower concepts).[FRSAD]

**Subject authority file** A collection of *subject authority rec*ords.

**Subject authority record** An *authority record* for a *concept* that shows its *preferred term* in the established form within a given *indexing language,* its alternative forms and *non-preferred terms*, its *semantic relations* with other concepts, and the correspondence with the preferred terms for the same concept by other indexing languages, and cites the authorities consulted in determining the preferred term.

**Subject cataloguing** The part of cataloguing that provides controlled subject *terms* and/or classification numbers [ICP]
*See also indexing*

***Subject classification scheme see Classification scheme***

**Subject domain** A branch of knowledge, a field of study, a discipline.

**Subject heading** A word, group of words, or phrase used to identify the *subject* of a *work*. Subject headings are used to group together *resources* about the same *subject* under one standard heading. They are *controlled vocabularies*.

**Subject heading lists** A standardised, established list of *subject headings*.

**Subject index** An alphabetically arranged list of *subject headings* selected by an indexer to represent the content of a *work*. Often separated from name indexes of persons and places.

**Subject indexing** Representation of the subject of a *resource* (or of a part of a resource or an "information object") in a record or in an index for the purpose of retrieval. Often a distinction is made between descriptive cataloging on the one hand and subject indexing on the other hand. "Descriptive" indexing emphasises physical properties, originator, title, publisher, time and place of publication, etc., whereas subject indexing emphasises the identification of the "*subject*" of the document. Different parts of the document may be used by the indexer, e.g. the title, the references or the *full-text*. It is widely recognised that quality indexing depends on review. Different techniques may be used, e.g., human intellectual analysis or computer based statistical analyses of word frequencies. The subject indexing process consists of *subject analysis* followed by a “translation” of the *subjects* to the special system applied.[Hjørland]
Subject indexing is the process of evaluating information *entities* and creating *terms* that aid in finding and accessing the *resource*. Index terms may be in *natural language* or *controlled vocabulary* or a *classification notation*. [DCMI Glossary]
Sometimes indexing is used in a narrower sense for *verbal indexing* only.

***Subject indexing policy see Indexing policy***

**Subject searching** Searching for the *aboutness* of a *work*, using e.g., *subject headings* or *classification notations*.

**Synonymy** A kind of a *semantic relation*, whereby a word or phrase has the same (or very nearly the same) or equivalent meaning as another *term*. In *indexing languages*, synonyms are controlled by establishing an authorised list of preferred indexing terms to which the synonyms are considered equivalent.

**Table of contents (TOC)** List of the chapters or article titles in a book or journal, usually found at the beginning of a *resource*.

***Tagging see Social tagging***

**Term** A word or phrase used in a definite or precise sense to provide access to a record.

**Terminology** Words, phrases, and symbols representing the *concepts* and *subjects* used in a specific field of research, study, or activity, for which the meaning (established by convention or explicit agreement among its practitioners) is clearly defined, sometimes in a published glossary or lexicon. Synonymous with nomenclature. [ODLIS]

**Thesaurus** *Controlled vocabulary,* in which *concepts* are represented by *preferred terms*, formally organised so that paradigmatic *relationships* between the concepts are made explicit and the preferred terms are accompanied by lead-in entries for synonyms and quasi-synonyms. [BS 8723-1:2005]
A *controlled vocabulary* arranged in a known order and structured so that the various *relationships* among terms are displayed clearly and identified by standardised relationship indicators. Relationship indicators should be employed reciprocally. [ANSI/NISO Z39.19-2005]
Guide to use of *terms*, showing semantic relationships between them, for the purpose of providing a standardised, *controlled vocabulary* for information storage and retrieval.

**Top classification hierarchies** The highest levels / main classes / major subdivisions of a *classification scheme*.

**Topical heading** A *subject heading* that represents a *concept* or object or an aspect of a main *subject* other than form, geographic place or time period.

**UDC** *Universal Decimal Classification*
*See chapter 3.5.2 for detailed information*
*See chapter 7.1.1.2 for national examples*

**Uncontrolled access points** An *access point* that is not controlled by an *authority record* [ICP]

**Unicode** A universal encoding scheme designed to allow interchange,

processing, and display of the world's principal languages, as well as many historic and archaic scripts. Unicode supports and fosters a multilingual computing world community by allowing computers using one language to "talk" to computers using a different language. A registered trademark of Unicode, Inc. [DCMI Glossary]

**Variant term** The entry *term* in a cross-reference that leads to a *preferred term* in a *controlled vocabulary*. Synonymous with non-preferred term.
*See also Preferred term*

**Verbal indexing** *Indexing* with *subject heading* languages or other word based systems.
*See also subject headings*

**Web resources** Digital publications; Online publications such as e-books, e-journals, web sites, also digitised documents

**Work** An intellectual or artistic creation. [FRBR, FRAD modified by ICP]

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# Annex 1

# Working Group history

**2003**

The IFLA *Working Group on Guidelines for Subject Retrieval Standards in National Bibliographies* was initiated at IFLA WLIC in Berlin, chaired by Martin Kunz. Other members were Julianne Beall, Anders Cato, Patrice Landry, Dorothy McGarry, and Maja Žumer.

**2004**

Martin Kunz gave a WG report to IFLA's Classification and Indexing Section Standing Committee. The Working Group was entitled *Working Group on Best Practice Guide*. The group wanted to explore the minimal standards for subject access in national libraries. They looked at selection criteria of documents to give subject access. They stated that some of these guidelines are already defined in ISO standards, but not all.

The Standing Committee agreed that the Working Group reached maturity and after a meeting at IFLA WLIC in Buenos Aires it was called the *Working Group on Guidelines for Minimal Requirements for Subject Access by National Bibliographic Agencies*.

Martin Kunz and Patrice Landry reported on the group that now had 8 members and was looking for more. They set 3 tasks to be completed by June 2005: redraft the scope and draft terms of reference for their group create a survey form by early 2005, and define the methodology to collect and analyze data. In this way, the first year was experimental and built on the Copenhagen meeting on national bibliographies and Barbara Bell's work. They also wanted to perform a test in the group. Pia Leth suggested adding a member from the Bibliography Section. Lois Chan noted that Magda Heiner-Freiling also did a report and survey on the topic. Dorothy McGarry reviewed the scope and up to November 2004 the group was working well.

**2005**

There were some problems with the shared responsibilities. Having a dual chair did not work well, so a re-launch of the group was proposed, also to acquire new members plus some from the outgoing Standing Committee to create a new commitment in this Working Group. After Martin's retirement from the section, the WG was re-launched and the agenda re-established.

There was a meeting during the IFLA WLIC in Oslo, where new members were encouraged to participate. The objective was to promote the use of subject indexing and classification in national bibliographies and to include subject access in national bibliographies. Twelve members expressed interest during the WLIC and reviewed the terms of reference in the following months. The "minimal requirements" was dropped and the WG was re-named *Guidelines for Subject Access by National Bibliographic Agencies*, to clarify that the aim was not just minimal subject access. An action plan for the next 2 years was proposed. During October-November 2005 the group gathered NBA indexing policies to determine if a survey is needed. A mailing-list was set up. Colleagues sent their classification, subject headings, and thesauri policies or summaries in English or French. The WG goal was to offer the guidelines also for those colleagues building new subject languages. It was not the intention to develop an IFLA policy, but instead to show the variety of policies and practices among national libraries.

**2006**

The goal of the Guidelines was declared as to provide access to different stakeholders of national bibliographies. The group agreed to focus on subject indexing policies of national libraries and the collected six national policies (Switzerland, France, Germany, Canada, USA, and United Kingdom). Despite the fact that these were all examples from western

countries, the WG stated that they were very different and did not work as a model. The framework of guidelines was further discussed during a meeting at WLIC in Seoul.

**2007**

Patrice Landry hoped to obtain more policies from various National Bibliographic Agencies from which the WG could extract common elements. In February he met with Françoise Bourdon in Paris who developed a list of elements. They put the information into a paper that was presented by both of them at the National Libraries and C&I session during IFLA WLIC in Durban. It was further discussed by the group during a WG meeting in Durban.

**2008**

Patrice Landry apologised for not having been able to work very much as the chair of this WG because of his many commitments at work as well as Chair of the IFLA Division of Bibliographic Control, but he continued chairing the WG. All the members of the WG confirmed they were still interested in the work.

**2009**

The WG was not able to work very much due to the work load of everybody until summer. Since WG members still thought that the work should go on, especially in the context of the Guidelines on digital bibliographies, all agreed that the WG had to be renewed and that a chair was needed. Barbara Tillett and Maja Žumer stressed the need of subject access in national bibliographies, as stated also by the international Cataloguing Principles. Françoise Bourdon proposed a WG in cooperation with the Cataloguing and Bibliography Sections and Maja suggested including members coming from the WG on National Bibliographies in the Digital Age. Yvonne Jahns accepted to chair the WG. A meeting took place at WLIC in Milan. The group built now strongly on the work already done, i.e., the paper written by Françoise Bourdon and Patrice Landry and the guidelines published by the Bibliography Section. A Wiki was set up to work on the Guidelines draft efficiently.
A mid-year WG meeting was arranged in December 2009 in Germany, funded by IFLA HQ (3000 EUR). There members agreed on the main outline of the Guidelines. The aim was to prepare the Guidelines for world-wide review and publication by Saur in 2011.

**2010**

Members worked on the different chapters of the Guidelines and created a supplement to the National Bibliographies in the Digital Age.
A meeting was arranged during WLIC in Gothenburg.

**2011**

A mid-year WG meeting was arranged in March 2011 in Germany, funded by IFLA. The recommendations were finalised. The Guidelines draft was available for world-wide review from May to July 2011. Comments were received from the National Libraries of Australia, Austria, Canada, the Czech Republic, Denmark, Israel, Italy (Florence), Latvia, New Zealand, and the U.S. Agricultural Library and Pat Riva, Québec, Canada. At two final WG meetings during IFLA WLIC San Juan, Puerto Rico, comments were analysed and the Guidelines edited.
The Guidelines were finally approved by the Standing Committee of the Classification and Indexing Section as well as by the Standing Committee of the Bibliography Section.

# Annex 2

# Members of the IFLA Working Group on Guidelines for Subject Access by National Bibliographic Agencies

The following members contributed partially or continuously to the Working Group:

| | |
|---|---|
| Marie Balíková | Národní knihovna České republiky, Czech Republic |
| Julianne Beall | Library of Congress, USA |
| Françoise Bourdon | Bibliothèque nationale de France, France |
| Pino (Giuseppe) Buizza | Biblioteca Queriniana, Brescia, Italy |
| Leda Bultrini | ARPA Lazio, Rome, Italy |
| Anders Cato | Kungliga biblioteket – Sveriges nationalbibliotek / Gothenburg University Library, Sweden |
| Charlene H. Chou | Columbia University, New York, USA |
| Jonathan Furner | Graduate School of Education and Information Studies University of California, Los Angeles, USA |
| Yvonne Jahns (Chair 2009—2012) | Deutsche Nationalbibliothek, Germany |
| Ulrike Junger | Deutsche Nationalbibliothek, Germany |
| Martin Kunz (Co-Chair 2003—2005) | Deutsche Nationalbibliothek, Germany |
| Patrice Landry (Chair 2003—2009) | Schweizerische Nationalbibliothek, Switzerland |
| Dorothy McGarry | University of California, Los Angeles, USA |
| Sirje Nilbe | Eesti Rahvusraamatukogu, Estonia |
| Eunice Maria Silva Pinto | Biblioteca de Arte, Lisboa, Portugal |
| Ingebjorg Rype | Nasjonalbiblioteket, Norway |
| Magdalena Svanberg | Kungliga biblioteket – Sveriges nationalbibliotek , Sweden |
| Thordis T. Thorarinsdottir | Menntaskolinn vid Sund Junior College Library, Reykjavik, Iceland |
| Barbara Tillett | Library of Congress, USA |
| Nancy J. Williamson | Faculty of Library and Information Science (FLIS), University of Toronto, Canada |
| Ekaterina Zaytseva | Государственная публичная научно-техническая библиотека России, Russia |
| Marcia Zeng | School of Library and Information Science, Kent State University, USA |
| Maja Žumer | Univerza v Ljubljani, Slovenia |