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The MACS Project : Multilingual Access to Subjects (LCSH, RAMEAU, SWD)

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The purpose of this presentation is to show the results achieved in the MACS Project (Multilingual Access to Subjects) since last year, when the project was presented at IFLA Bangkok. That presentation, given by Genevieve Clavel-Merrin [a] during the cataloguing workshop session on August 26th of last year , gave an overview of the work done between 1997 and 1999. Based on the Final report of the CoBRA+ working group on multilingual subject access, the presentation stressed the value of co-operation in the quest for multilingual subject access.

<p>

A year later, I am happy to say that co-operation is still the guiding principle of the project now called MACS. Before reporting on the progress of the Project, I would like to briefly give an overview of what MACS is all about. In 1997, the Conference of European National Librarians (CENL) asked CoBRA+ (programme funded by the European Commission) to try to find a solution to the problem of multilingual subject access to bibliographic databases. A working group under the CoBRA+ Task Group A was organised to discuss that issue with regard to national libraries. Four national libraries accepted the challenge – the Swiss National Library, Bibliothèque nationale de France, Die Deutsche Bibliothek and the British Library. These libraries are either partly or fully responsible for the creation and maintenance of three major subject heading languages (SHL), the German language SWD, the French language RAMEAU and the English language LCSH. The group produced a concept that would permit users to search library catalogues in the language of their choice and a pilot study was conducted up to the beginning of 1999. Since 1999, MACS is a CENL Project, financed by the four national libraries.[b]

<p>

Multilinguism is now an important issue is the field of bibliographic access. The ever increasing growth of Internet access has given widespread access to the catalogues of libraries. Because of the global economy and the trend towards international co-operation, researchers are gradually more dependent on international information resources. The publishing world has diversified and expanded to the point that documents published in a particular language can be found in numerous national

libraries. Libraries have responded favorably to these trends and challenges and are more than ever committed to improving access to their collections both nationally and internationally.
<p>
What is at stake is the possibility for users to conduct a subject search in catalogues in their preferred language. Most libraries will index documents using a subject heading language and users have to gain a practical knowledge of that language in order to succesfully conduct a search. In all of the national libraries involved in the project, each document, independently of the language in which it has been written, is indexed using a particular subject heading language. Using my own library as an example, a researcher from abroad must not only master the German language but also the intricacies of the SWD / RSWK subject heading language in order to access material by subject.
<p>
In the pilot study phase of the project, the group investigated the possibility of offering multilingual subject access using the three SHLs in use in their own institution (RAMEAU, SWD and LCSH) by establishing links between the headings in each language. In adopting this approach, which is based partly on the ISO5964 multilingual thesauri guidelines, the group took in account the following points :

Libraries have already invested considerable time and effort in the creation and maintenance of the SHLs
Current SHLs offer subject access to millions of documents
Translation would be costly and would require that some SHLs be abandonned

On the basis of this study, the directors of the four national libraries involved in the project signed a convention to fund the creation of a prototype : MACS (Multilingual Access to Subjects), via the CENL. In the Fall of 1999, a targeted call for tender was sent out. After reviewing the proposals received, the partner libraries selected a consortium composed of Index Data Aps (Dennmark) and Tilburg University (Netherlands). Work started in early 2000 and a first version was released just prior to this conference and a fuller version is planned for the end of September. [c]
<p>
The MACS prototype exists independently of the partners' own library systems. The basic requirement is that it should be a WWW application (to be used by users searching the different catalogues and by the partners to add and maintain the links between the different SHLs). It should also have an interface in each of the 3 languages. It should be expandable to offer the possibility of adding other languages and it should use standard formats (the data presently in the prototype uses USMARC, MAB/PICA and UNIMARC formats).
<p>
When drafting the specifications for the prototype, we were particularly interested in having mechanisms for the establishment and maintenance of links between SHLs, including updating of the system. It should also be clear to users how they can search and how they can have access to subject headings that are in the database. The access to each partner's library through Z39.50 should be transparent to the users and the results set clearly presented to the users. The prototype should show how it can be scaled up to improve access and navigational functions.
<p>
More specifically, the protoype should have the ability to import links already identified during the pilot study. This is an important issue since all of the initial work was done using Word97 and it was important that the integrity of the work be maintained when transfered to the prototype. The link management should have a file management and a maintenance structure that allows data to be easily added and amended. Access to the terms should be provided through terms (SHLs) and authority ids with browse and boolean search capabilities. And finally, the link management should address the problem of « one-to-one » and « one to many » links.
<p>
The prototype should provide for any user the possibility to choose a « source language » and one or more target catalogues. He should have the possibility to choose and select subject headings in one SHL and find equivalent(s) to the selected headings. The search results should be clearly displayed and bibliographic records easily retrieved.

To test if the prototype could measure up to these requirements, about 15'000 bibliographic records from each database and 1'000 headings (linked to the bibliographic records) and their equivalents were loaded in the prototype. The headings were in the fields of Sports and Theater, plus an additional set of links derived from the 500 RAMEAU headings most used often to index documents.
<p>
As we are completing the protoype phase (until the end of September), there are still some tasks that need to be done. Between now and the end of October, we will conduct extensive tests to see if our partners from Index Data and Tilberg University have fulfilled their mandate. We will also do an analysis of scaling-up the prototype using live testing of Z39.50 in at least one of the catalogues. We will also define, on the basis of the link management, guidelines for an efficient management of links in a decentralised environment.
<p>
The final version of the prototype will be presented to the CENL at the end of September and the future will depend on the acceptance of the results by the directors and of course, the availability of funding to keep the project going and making the prototype a feature in the web access to national libraries' catalogues.
<p>
The following demonstration will give a few examples of the prototype as it was on August 10th 2000. At that time, not all of the features had been developed, nor were all of the bibliographic data and links fully loaded. Since then, the prototype has been substantially modified and improved.

<h3>The Link Management Interface :</h3>

This interface should only be accessed by the partner libraries to add and to manage the links beween the different SHLs. This interface is protected and access is only possible through a logon and password. Different levels of access are planned so that , for example, a designated editor of a particular SHL could have specific access to the link database.
<p>
To find out if a particular term is already in the link database, the interface has a **Search for Term** screen from which we can do two types of search ; search by entering a search term (i.e. Actors) or an authority number . The user can also access the database by browsing the SHL through the « List Terms » function.
<p>
In addition to the « **List Terms** » button, additional functions are available (see left side of the screen,). We can navigage using different buttons, such as « **New search** » to go back to the Search screen, « **Add Link** » which is the blank worksheet to add a new link, and « **Discussion** » which is a discussion forum that would permit the different partner libraries to discuss particular problems in the establishing or modifying of a particultar link.
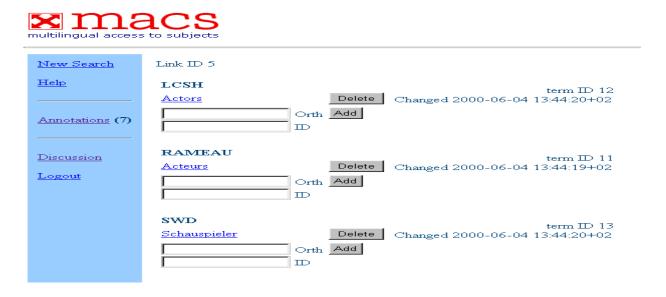
The **Search Results** screen shows which links have been made to a particular subject heading in the focus SHL. In the case of « Actors », one link was established by linking « acteurs » (RAMEAU) and « Schauspieler » (SWD) to the LCSH heading. In the cases when one heading in a focus SHL is linked to more than one term in other SHLs, the **Search Results** will indicate the number of links established to a particular SHL. For example, « Jumping » (LCSH) has two links : one to « Saut en hauteur » (RAMEAU) and « Hochsprung » (SWD) and another to « Sauts (athlétisme) » (RAMEAU) and « Sprung » (SWD).

From **Search Results** screen, we can use the « **View Link** » to have information on when the link was made or modified and by whom.

The « **View Link** » function is primarily an editorial function. From this screen, a term (authority) or the link can be modified. It is possible, by clicking on the term (i.e. Actors) to view the details of the subject heading (i.e. Authority number, when it was changed, and by whom.).

1. The Search Interface :

The search interface was designed to give the library users the possibility of using their preferred SHL and doing their search in the catalogues of one or many libraries. As this is will be a WEB interface, the library user of a particular national library can decide to do a multilingual search only in the catalogue of his national library and using a different SHL from the one used by that national library. To proceed with search, the library user enters the search term(s) in a particular SHL and selects the library catalogues in which the search will be done.

The library user can select the **Search** button which will automatically do a search in the catalogues selected and show the results (see below **Search results** screen)

The **Browse** button (which we will demonstrate) will show all the headings where a particular heading or term is used and the links to these headings.

In the example « Cycling », we see that that term is used in 11 LCSH subject headings for which we have established links. Please note that the term « cycling » is displayed regardless of its position in the subject heading.

From this screen, the library user can select the subject headings for the search. For our demonstration, we have selected the first five subject headings.The LCSH heading « Cycling » was selected twice because it is linked to two different SWD headings.

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	English (LCSH)	Deutsch (SWD)	Français (RAMEAU)
☑	All terrain cycling	Geländeradsport	Vélo tout terrain
☑	All terrain cycling	Mountainbiking	Vélo tout terrain
☑	All terrain cycling -- Training	Geländeradsport + Training	Vélo tout terrain + Entraînement
☑	Cycling	Radfahren	Cyclisme
☑	Cycling	Radsport	Cyclisme
☐	Cycling accidents	Radsport + Sportverletzung	Cyclistes -- Lésions et blessures
☐	Cycling for women	Radsport + Frauensport	Cyclisme féminin
☐	Cycling -- Law and legislation	Radsport + Sportrecht	Cyclisme + Droit
☐	Cycling -- Records	Radsport + Rekord	Cyclisme + Records
☐	Cycling -- Safety measures	Radsport + Unfallverhütung	Cyclisme + Mesures de sécurité
☐	Cycling -- Training	Radsport + Training	Cyclisme + Entraînement

The **checked subjects will be included** in your search

Proceed with searching

The **Search results** screen will indicate how many hits are in each of the libraries and will list the titles in a brief format. (In the following screen, the list was abbreviated in order to show a maximum of 3 titles)

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Your search results in the libraries...

British Library: 33 hits.

1. The complete book of mountain biking; Brant Richards and Steve Worland;

2. The mountain bike book; David Leslie; photographs by Tim Woodcock;

3. Mountain bike racing; Tim Gould and Simon Burney;

Bibliothèque nationale de France: 31 hits.

1. Il était une fois le cyclisme à Corbeil-Essonnes; un siècle d'histoire; Guy Caput, Roland Oberle;

2. Guide du cyclisme; manuel pratique et conseils de santé; docteur Gérard Porte;

3. Le livre d'or du cyclisme; 1995; Jean-Luc Gatellier; préf. de Laurent Jalabert;

Swiss National Library: One hit.

1. Schwyzerland; [Kartenmaterial] :: Rigi - Vierwaldstättersee : Wanderkarte;

Die Deutsche Bibliothek: 62 hits.

1. Bike-Events ... : die Höhepunkte der Saison : Bike plus

2. Trainingsplaner

3. Franken : [40 Spitzen-Touren, präzise Wegbeschreibungen, übersichtliche Tourendaten, Streckenskizzen + Höhenprofile] / Frank Klose

The library user can access the full bibliographic record by clicking on the title. The interface will retrieve the bibliographic record in the selected library and will display the record in the bibliographic format (i.e.USMARC, UNIMARC, MAB) used by that library. (The final version will display records in a more enduser friendly format).

We will select the record from the Swiss National Library and that record will be displayed in the USMARC format. The SWD heading equivalent to « Cycling » and « All terrain cycling » used by the Swiss National Library to index the document is « Mountainbiking » (which is a true German term). That heading is entered in the field 650 which is in USMARC a SHL field.

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The full record...

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008        980420s1998 sz abg a 0 ger d
020        a 3259003711 : c Fr. 14.-
034    1   a a b 40000 d E0082525 e E0084746 f N0470515 g N0465253
035        a 1167-00860
039        b 38 b 41
040        a SLB c SLB
245    00  a Schwyzerland h [Kartenmaterial] : b Rigi - Vierwaldstättersee : Wanderkart.
250        a [Überarb. Aufl.]
255        a 1:40 000 c (E 825'25"--E 847'46"/N 4705'15"--N 4652'53")
260        a Bern : b Kümmerly + Frey, c 1998
300        a 1 Karte : b mehrfarbig ; c 57 x 71 cm, gef. 15 x 11 cm
500        a Karte hergestellt durch Kümmerly + Frey
500        a Benützung der Landeskarte der Schweiz (Bew. L+T 2.2.1998)
500        a Mit Bike-Routen
500        a Rückseite mit Wandervorschlägen
595        d 675 000 e 703 000 f 215 500 g 193 000
650    7   a Mountainbiking z Schwyz v Karte 2 SWD
650    7   a Wandern z Schwyz v Karte 2 SWD
650    7   a Mountainbiking z Vierwaldstätter See v Karte 2 SWD
650    7   a Wandern z Vierwaldstätter See v Karte 2 SWD
651    7   a Schwyz x Mountainbiking v Karte 2 SWD
651    7   a Schwyz x Wandern v Karte 2 SWD
651    7   a Vierwaldstätter See x Mountainbiking v Karte 2 SWD
651    7   a Vierwaldstätter See x Wandern v Karte 2 SWD
710    2   a Kümmerly und Frey (Bern)
999        a sb b 1998/12 c 16
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This concludes the presentation. It is hoped that this first glimpse of the prototype which is still under development gives a positive view of the potential of the MACS project. As mentioned, the first version of the prototype should be finished by the end of September . That version will be evaluated and if everything is done according to our schedule, the prototype could be accessible by the end of the year.

Endnotes :

[a] The need for co-operation in creating and maintaining multilingual subject authority files.
[b] For reports of the working group see http://www.bl.uk/gabriel/
[c] Further details and results from the prototype will be available at : http//www.infolab.kub.nl/prj/macs