The card conversion project at the University of Bergen Library

On the conversion of our card catalogue to our electronic catalogue Bibsys, challenges and problems in the conversion process, how the project was organized, and benefits of an electronic catalogue.

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Introduction

When libraries started using electronic catalogues for their collections, it became necessary to convert older card catalogues to electronic versions. In the Nordic countries and Europe this work really got under way during the 1980s and 1990s (Kaltwasser & Smethurst 1992; Beaumont 1989). In Norway the National Library and Oslo University Library converted the University Library Main Catalogue III (HK III) from 1993-1998 (Kiss 1998), and at the Trondheim University Library parts of older catalogues were also converted. To a lesser degree catalogues were converted in other Norwegian academic libraries.

Some of the benefits of an electronic catalogue are:
- all holdings may be gathered into one catalogue
- the catalogue may be accessed and searched from researchers' and students' work-stations, and also from all over the world
- the search possibilities/search combinations/search entrances are augmented
- links to full-text documents
- inter-library lending is easier
- promotion and thereby increased use of the older literature
- participation in promoting the national inheritance
- a basis for automated loan functions
- a basis for efficient routines when ordering and purchasing literature
- a basis for securing and revising collections, especially useful when moving and reshelving holdings
- flexibility when changing catalogue systems
- the import/export of bibliographic records

This chapter tells the story of the card conversion project at the University of Bergen Library. For the main part the chapter builds on the final report from the project (University of Bergen Library 2003).

The project's goal was to convert all the most important card catalogues in the library to our online library system Bibsys. Bibsys is an integrated electronic catalogue for Norwegian research libraries, and the National Library. The system is based on shared bibliographic information, with local copies connected to the bibliographical entries.

During 1992-2003 the project converted the main card catalogue, some shelf lists and institute catalogues. The main part of the work was to convert the Main Catalogue (HK), and this we did from 1994-2003. This chapter deals with the methods, challenges and problems, tells about cooperation with others and the usefulness of the project.

Facts and background

The Main catalogue has entries from 1892-1983, and contains material acquired from the foundation of Bergen Museum Library in 1825 until University of Bergen Library started cataloguing all new acquisitions in the Bibsys database in 1983. The oldest books in the catalogue are from the 14th century. The documents covers all subject areas and many languages and nationalities. The catalogue contains approximately 1,03 million cards. Totally we converted 1,1 million cards, and approximately 475.000 records are registered in the database.

The project has had three stages and approximately 33 man-years of work have been completed. The result: **One** electronic catalogue for the library collections.

Goals

The conversion project started in 1992 with the first goal being to register the library journal shelf list as well as a selection of other shelf lists in Bibsys. From the beginning the project was planned to take four years. As the results turned out to be very useful, the project was prolonged. The new goal was to digitize all the important card catalogues in the library by transferring the bibliographic information to Bibsys.

The situation in 1993

From 1982, UBL participated in the Bibsys co-operation; from 1983 all new acquisitions were catalogued in Bibsys. Bibsys uses Anglo-American Cataloguing rules II (AACRII), Norwegian translation and adjustment, and Bibsys MARC-format, (an adjustment of the MARC-format to Bibsys). Our card catalogue was based on "Cataloguing rules for Norwegian Libraries" in different editions, and with local adjustments and rules.

Bibsys will, in addition to its own base, also give access to databases with MARC-data from the Norwegian National Bibliography and the Library of Congress catalogue. These records are easy to copy into the Bibsys base, and may be used as a basis for registering and cataloguing.

When UBL started cataloguing all new acquisitions in Bibsys in 1983, we did not have the capacity to convert the card catalogue at the same time. The card catalogue was closed, and had to be used in addition to Bibsys. This meant that both staff and patrons needed to use two catalogues when looking for literature. We also often had to check both catalogues in the reference work, and after a while the material in the card catalogue was under-used. When patrons did not find the material in the electronic catalogue, they believed that we did not have it. On many occasions it did exist, but was only registered in the card catalogue. Older literature registered in the card catalogue was mini-registered in Bibsys when loaned, but this was just a few titles compared to our large collections. We needed to gather all records in one catalogue. This meant a lot of work, and would be almost impossible to do along with the daily work, therefore it was made into a project, divided into several different parts.

Project planning

Some preparatory work was done before the project application was sent. Already in 1984 the Catalogue Department at the library developed time predictions for a conversion. We estimated that it took around five minutes to convert one card, and using an estimate of the number of main cards in HK we would therefore need approximately 29 man-years of work to convert the entire HK. These estimates turned out to be quite correct.

The National Library converted University of Oslo Library Main catalogue III in 1993-1998. This catalogue contains records of foreign literature from 1966-1979. Here the estimates showed that converting a card took approximately fourteen minutes. By applying this estimate, we would need approximately 81 man-years of work to convert HK. We were certain that we would have a better production rate than this as the National Library conversion was a pioneer work in Norway, which involved considerable teaching of unskilled labour, and moreover at that period Bibsys was partly unstable. We would also be able to build on this conversion because it placed on the Bibsys database literature that we also had in our collections.

Different methods of conversion were investigated, we considered scanning and OCR-reading the cards as there were projects for scanning catalogue cards both in Denmark and Finland. (*MARC-spiste kort,* 1992). However, we soon concluded that scanning would not be useful as our card material was too varied.

The cards had been formatted in many different ways as the cataloguing rules changed, in some cases the printing was poor, and hand-written cards could pose major problems. There would also be a lot of work after the scanning itself, both with the correction of mistakes and the control of duplicates. Also, we would not be able to take full advantage of the common bibliographical data that Bibsys offers, and the advantage of having the registration available in Bibsys immediately would be lost.

Another alternative was to find the books and use them as a basis for the registration. This would require more time, because the books would have to be taken from the stacks and returned, and there would be the problem of all the books being on loan. The already registered bibliographical information that was collected and saved on the catalogue cards would not have been used, but in many cases we would still have to use the cards in addition to the books in order to find the correct bibliographical information.

Therefore, we decided to convert the bibliographical information on the cards directly into Bibsys from the cards in the main catalogue. As seldom as possible would we fetch the books in the stacks, only when it was absolutely necessary in order to check bibliographical information.

Because the total project was so large, we first applied to the University for funding of part of it; we were granted funding of three positions over four years.

We prioritized the following projects:
- the journal shelf list (approximately 23.000 cards)
- some shelf list catalogues and institute catalogues (approximately 59,000 cards)
- the alphabetic catalogue at the Arts and Humanities Library (approximately 70,000 cards).

The selection principles were that the work should be limited, that it should be useful to as many users as possible, and that we should convert the cards only, without fetching the books.

Organizing and implementing
The Conversion Project was organized as a project for card conversion with its own board, consisting of leaders of the different branch libraries and the library director. A project leader was appointed who also had a seat on the board. The board made the principal decisions on what to convert, and supported the project in problematic decisions.

The project started 1992 with three positions available for four years,

one librarian and two secretarial positions. The librarian was to have the daily leadership of the project. We had a large office, located close to the collections and the card catalogue, with three computer work-stations.

Bibsys designated converted entries with their own status in the catalogue, '*konv*', to separate them from ordinary catalogue entries. This signalled to the library staff that the entry was based on conversion from cards, and thus might not conform to cataloguing rules and bibliographical information. Other libraries were freely able to correct these entries if they contained incomplete or inaccurate information.

The work started with the conversion of the journal shelf list. The librarian aquired an overview of the card material, and made routines and rules for this conversion. The secretaries were taught cataloguing and registration rules and initially the librarian proof-read all the work.

Method

We went through card drawers one by one and registered the main cards. All relevant bibliographical information was submitted to the correct MARC fields. The most important fields to be registered were: Author, co-authors, editor, institution, title, sub-title, place, year, number of pages, series, library code, shelf number, classification, and local notes.

Before registering we did a thorough search in the database to see if the document had already been registered. If so, we only added our own local data; library code, shelf number, classification etc. In addition we searched the Library of Congress database and the Norwegian National bibliographical database. During our project more and more catalogues in other libraries were available on the World Wide Web, and some could be used as a basis for the registration (more about this later), this made verifying bibliographical information easier, and added to the quality of our own work.

Cards that were particularly difficult to convert were marked with coloured clips and checked by the librarian. As the staff became more experienced we stopped proof-reading all entries. Each card drawer held 600-700 cards, of which 300 were main cards. On average we had to go to the stacks to verify the books/journals for 5-8 cards in each drawer. Because of this it was useful to be close to the stacks and the catalogue department of the library. During the project we used all the bibliographies and reference works in the library.

Throughout the project, more and more libraries became part of the Bibsys co-operation, and these also in converted parts of their old collections. This has also been useful to us.

In addition to the work of the conversion project, older literature being

loaned was registered in the database by the circulation desk staff. The average percentage of other libraries having already registered the document in Bibsys were around 40%.

The first project – the journal shelf list

The journal shelf list was a part of HK and contained 23.000 cards with all the holdings of journals and series, both present and discontinued. We used about a year (1992-1993) to convert this material. The catalogue contained cards from all the main collections in the library, and covered the time span 1870-1983. The journal shelf list was prioritized because the information would be very useful to the Journals Acquisitions Department in their work with subscriptions and maintenance of the journal collection. Moreover, Bibsys offered a new journals module in the library system from 1995.

The cataloguing rules have been changed during the years, and the cards reflect this. They have been edited in different ways, and rules for names and in-stitutions have changed. There were also hand-written cards, and/or cards that were practically unreadable, so some of the documents had to be checked at the shelves.

Among the particular challenging parts of converting the journal shelf list, we encountered the problem of names for institutions. Both Bibsys and AACRII had other rules than the ones used in this part of the card catalogue. Present practice for institution names is that the name will be written in the institution's native language, using the form adopted by the institution itself. For example in our catalogue we had sometimes registered English forms for Slavonic institutions, and simplified or shortened institution names. Acronyms were also treated differently. It was important to make sure that all the search potentials were maintained, and to make a sufficient number of references.

Series that contained an institution name in the genitive case in connection with a general title like 'Proceedings' or 'Thesis' were also catalogued according to different rules than those applied today. We had to adjust the registration for these, but still have older entries with 'mistakes'. We also encountered challenges when it came to changes in title. Series often change their title, stop, restart, merge and split into sub-series. It was difficult to find correct information about this, particularly when our collection was incomplete. Some languages, e.g. Finnish and Slavonic, posed challenges. It was also difficult to find information about holdings, or in some cases they might contain several series after the present rules. In addition, most of our cards lacked ISSN numbers.

In this part of the project we had quite a good percentage of hits from entries already registered in Bibsys by other libraries, (close to 40 %), largely because the

National Library had already started their conversion of Oslo University Library HKIII, and that other libraries had also prioritized the conversion of journals and series. We also worked closely with our own journal acquisitions department; they received print-outs from all project registrations, and we used their manual cardex catalogue to check incomplete holdings information, missing issues etc. Institution names were verified in reference works and bibliographies, as well as in the ISDS-base (International serials data systems). Some of the entries were given correct institution names and ISSN numbers later.

The conversion of the journal shelf list went faster than planned and was a success. It became even clearer to the librarians and the patrons how useful it was to have everything in one electronic catalogue. Inter-library lending became much easier, and the Journal Acquisitions Department found the electronic version of the journals shelf list very useful, both with regards to the every day work, and as a preparation to use the other functions in the new Bibsys journal module.

All this strengthened the idea and goal of converting the whole card catalogue.

Shelf lists and Departmental Catalogues
From May 1993 to June 1994 we converted other shelf lists and departmental catalogues.

Shelf lists
The library had some shelf lists in card format on collections which were shelved numerically. These cards were quite new (1976-1983), and thus quite simple to register. The cards were also easily readable, and the cataloguing rules used were quite similar to the present. This was literature in high demand, from the subjects philosophy, psychology, pedagogy, languages and social sciences. It was a good starting point for our staff when it came to cataloguing books since it was quite recently published literature, and the percentage of pre-registered material was around 40%.

In addition the shelf list covering the reference collection and the shelf list covering University of Bergen Masters theses were converted.

Departmental catalogues
Some of the University of Bergen departments had large collections of books located in department libraries. These had their own card catalogues, and were supposed to send copies of the cards to the Main Catalogue in the University of

Bergen Library, something which had been done to a varying degree throughout the years. The collections partly contained older literature from 1900 and onwards, but the main part of these collections consisted of literature from 1940-1983, much of it in high demand. Some of these collections were chosen as possible objects for conversion; most were from the Faculty of Science, and the catalogues in the Departments of Chemistry, Physics, Mathematics and Botany were converted. The local librarians informed us about the cataloguing rules for these catalogues, and instructions for converting were made accordingly.

Progress and project expansion

The conversion turned out to be very useful, and in 1994 we applied for an expansion of the project. The project staff was stable, and had acquired experience in reading and understanding the cards, registration, and, when necessary, find books in the collections. The plan now was to start what would eventually become the largest task in the project, the conversion of the Main Catalogue. Work on this started in June 1994, and we estimated that this work would take 10 man-years with the staffing and production that we already had. This turned out to be quite correct, and we finished the work in June 2003.

The Main Catalogue

The Main Catalogue (HK) consists of two parts, one alphabetical and one systematical, the alphabetical part was the one we wanted to convert. Here all the main cards were updated on shelving, number of copies, lost documents etc.

The catalogue contained 1477 catalogue drawers with 600-700 cards in each drawer, a total number of 1,03 million cards, and approximately 700,000 of these were to be converted. The cards had been produced in a 100-year time span, from 1892-1983, and with the oldest literature being from the 14th century. We found all varieties of hand-written and typed cards, in different languages, and under several sets of cataloguing rules. From the beginning in 1892 until about 1918 the catalogue cards were hand-written on large slips of paper, and then typed on slips until 1966. In 1967 the slip catalogue was photographed and scaled down to ordinary card format. The scaling down meant that some of the cards were difficult to read, therefore we used the slip catalogue for checking difficult cards.

The cards also varied in quality, but bibliographically the quality was quite good. However documents were shelved in different collections and in different libraries, and the converters had to interpret the locations from the shelf signature on the cards. It was therefore important for the staff to have a good knowledge of how the collections were organized.
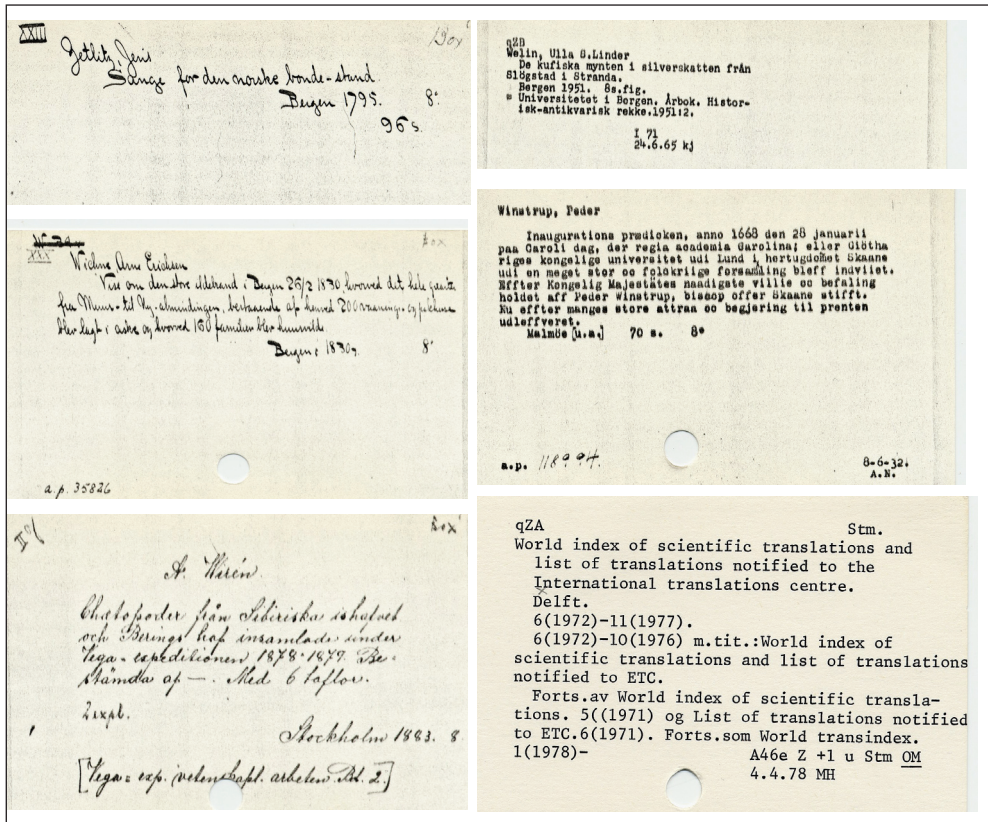
Examples of handwritten and typed cards.

Method

HK was the most demanding of all our conversions. The project librarian had to expand the routines for registration, and add new exemples as we encountered new problems. The cards were registered alphabetically according to the main card.

Otherwise the method was the same as earlier; we converted the main cards and did a thorough search in the database before registration. If the record already existed in the database, only local data were added, evident mistakes were corrected and duplicates were merged.

Most of the material has been registered from the data on the cards. Difficult cards (about 8-10 in each drawer) were marked and checked, either at the shelves, on the document itself, or in other sources. Once all the cards in a drawer had been converted, it was marked accordingly, to allow both the project staff and the rest of the library staff to see how far the conversion had proceeded.

Quality of registration

We had to submit the bibliographical information in AACRII and Bibsys MARC-format. Bibsys made a standard for registering entries that did not have catalogue status and this was followed as far as possible. We have incorporated new decisions and rules in Bibsys when applicable. We used Library of Congress and National Bibliographical entries wherever possible, and we used reference works and printed and electronic bibliographies to verify names and other information. As large library catalogues have became accessible on the internet we used them to raise the quality of registration.

Problems in the registration

Since 1991, Bibsys has had an authority file, containing authorized forms of names for people and institutions, and standard titles for anonymous works and series. As one catalogues or registers, data is controlled against this register. One may also put new entries into the authority register, and all references in forms other than those authorized are placed here. In the beginning this control only took place for entries that were catalogued, and we only used this register for checks when we deemed it necessary. From 2001 converted entries were also checked against this register before final registration. This led to better quality for the converted entries, but also made the process more time consuming, as we had to control the correct forms of the name before we could enter them into the authority register. We would register some older literature, being the only Bibsys library to have the document, and we would try as far as possible to enter the correct form of the name according to the present rules. If the author used initials instead of full first name the initials were used. In HK the rule had been to fill in the first name. It could be difficult to tell from the cards what the author had originally done.

Some of the other difficult issues were:
Author names with different forms:
Dostojevskij, F.M.; Dostoevsky, Fydor, Dostoejevskij, F.M.; Dostojewskij, Fjodor M; Frans av Assisi, Franciskus av Assisi, Francois d'Assise, Francis of Assisi, etc.

Royals, peers, and other people with titles or sobriquets had names of different forms than those used today: Fredrik 2, king of Prussia, Friedrich der Grosse, Friédrick der Grosse etc

Latinized name forms in older literature were a problem, also Greek and classical name forms. In our card catalogue we had used classical and Greek name forms, partly adapted to Norwegian. AACRII has a rule saying that in many instances

these should have the Latin form, e.g. Platon in our catalogue was supposed to be Plato in Bibsys.

Institution names were to be rendered in the national language; while we often have English versions of the name in HK.

Literature older than 1800: Often the information would be sparse and the correct form of personal names might be difficult to find.

Sometimes works were found that were bound together in the same volume, either by the library or by an earlier owner. These could be totally separate works, by separate authors, originally published separately. We would then have to catalogue the separate works individually, and use local notes to explain.

We have also been able to correct shelving errors, and mistakes in the catalogue and in Bibsys, often by communicating with other libraries.

Help in the registering work
The most important help has come from many sources, grouped appropriately below.

The cataloguing rules (Norwegian version of AACRII)
Bibsys MARC
Bibsys rules and decisions
Our own rules and lists of collections and codes etc.
The Bibsys database[1]
The National Bibliography of Norway[2]
The Union Catalogue for Norwegian Libraries[3]
Anonymous classics: a list of uniform headings for European literatures, IFLA 1978
Christensen, Hans Petter: *Greske og latinske navneformer inntil år 1500*, 1995. (Greek and Latin names until year 1500, in Norwegian)
OCLC[4]
Library of Congress authority file[5]
World Cat[6]

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[1] http://ask.bibsys.no/ask/action/stdsearch
[2] www.nb.no/
[3] www.nb.no/baser/sambok/
[4] www.oclc.org/
[5] http://lcauth.dra.com/db/LCAUTH/author.html
[6] http://newfirstsearch.oclc.org/WebZ/FSPrefs?entityjsdetect=:javascript=true:screensize=large: sessionid=fsapp2-44394-ekhz14tf-fgv6j1:entitypagenum=1:0

COPAC (British and Irish Union Catalogue)[7]
Libris (Swedish Union Catalogue)[8]
bibliotek.dk (Danish Union Catalogue)[9]
Karlsruher virtueller Katalog (KVK) (German/Austrian/Swiss Union Catalogue)[10]
Foreign national bibliographies
Bibliographic reference works, Norwegian and foreign
The World of Learning[11]
Dictionaries

Reports and statistics
We made monthly statistics over the production. The board would meet 3-4 times a year to be updated on the progress. We produced a yearly report and statistics, and we had a large diagrammatic chart in the conversion room where we showed progress by columns.

Number of cards handled 1,119,272
Number of entries converted per year: 44,569
Average entries converted per man-year: 14,856

Information and collaboration
We informed our colleagues on regular basis about the progress of the project. Eventually we had our own web page, where we would update the progress every month, and there was also some information on the library home page. We would give updates at internal seminars and meetings.

Externally we provided information via our web page, on Bibsys meetings, information leaflets and visits from other libraries. We also wrote an article to *Synopsis*, a Norwegian library journal.

Advantages of a local conversion project
There are many offerings in the market for a library to send its card catalogue away and have it converted, but we have seen that a local conversion has proved

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[7] http://copac.ac.uk/wzgw?f=f&form=A%2FT&id=6787366
[8] http://websok.libris.kb.se/websearch/servlet/se.kb.libris.websearch.Form?type=simple
[9] http://bibliotek.dk/
[10] www.ubka.uni-karlsruhe.de/kvk.html
[11] www.worldoflearning.com/views/home.html?authstatuscode=200l

to be very useful. The card material in our catalogue was very varied and it would have been difficult to have this converted without local expertise. Some cards had to be checked against the documents, and this would not been possible with an external conversion. After a while the staff became experts in this, and the quality of the work was very good. The catalogue was immediately available, and mistakes could be rectified immediately. An additional benefit noted by the library staff was that the demand of older literature increased.

The project staff was very stable, and we have not had to train new staff, something that has been a problem for other conversion projects. We also saw that the work was useful almost immediately, particularly when the older literature came into demand, and the rest of the library staff was supportive, all of which encouraged us to continue.

The project personnel have participated in courses in new cataloguing rules, some Bibsys-courses and a short Latin course.

For patrons

All patrons can now access the whole of the University of Bergen Library catalogue online. It may easily be searched from the individual work-stations at the University or from all over the world where there is access to the Internet. The search possibilities in the catalogue have been augmented; one may search further on author and subject, and combined and advanced searches are now possible.

Loans, reservations, returns and messages to patrons have become automated.

The conversion of entries for the older Norwegian literature that few or no other libraries had in their catalogues has contributed to promoting our national cultural heritage. Our national and international inter-library lending co-operation has been improved. We can see that the older literature is still in demand by other libraries, both in Norway and internationally.

For library staff

In the library the staff now has one catalogue, which means that the verification of orders are easier.

Loans, recalls, reservations, returns etc have been automated.

New electronic special catalogues may easily be made.

It is easier to reclassify, reorganize and revise the collections. During the last few years we have undertaken a major reorganisation of collections because

of the rebuilding of the Arts and Humanities Library. This has involved moving collections to open shelves as well as closed stacks. Here we have been able to create lists of collections that were to be moved, change the locality information etc.

We have also started using RFID (Radio frequency identification) for alarm and loan functions. Again, the implementation of the RFIDs has been dependent on the electronic catalogue.

In addition, we believe that the total Norwegian Bibsys database has received an important addition, especially when it comes to older literature. Our newly registered records will function as a basis for other libraries and their future registration, making it be easier for other libraries to convert their older collections when they find our entries in the database.

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