

**RETRO-CONVERSION BY KEYBOARDING OF THE  
DANISH NATIONAL BIBLIOGRAPHY. CARTOGRAPHIC  
MATERIALS 1986-1990. A PRECIS**

**and**

**NATIONAL AND INTERNATIONAL CO-OPERATION FOR  
THE EXCHANGE OF BIBLIOGRAPHIC RECORDS**

**By Susan Vejlsgaard**

A year ago, at the LIBER conference for map curators here in Barcelona, I read a paper on retro-conversion by keyboarding of the Danish National Bibliography. Cartographic Materials 1986-1990. This being a different forum, I shall make a precis of that paper, especially since the map department has not had the chance and time to continue the retroconversion.

For the Map Department of the Royal Library the decision to retro-convert was easily made, as we were asked by our Director to do so. The Map Department had already produced "The Danish National Bibliography. Cartographic Materials 1990", based on the map department's computer records in the Royal Library's bibliographic database REX. This being a success, it seemed natural to make the quinquennial culmination of "The Danish National Bibliography. Cartographic Materials 1986-90" in the same way. As the records for 1990 were already in REX, we had to retro-convert the entries for 1986, 1987, 1988, and 1989.

We were of course asked to make an estimate as to how much extra work this would involve. The number of records in question was about 800, and after having made a few tests at reformatting different types of catalogue cards we estimated, that on average it would take 15 minutes per record to keyboard-convert a catalogue card into danMARC (CM), the Danish machine readable format for cartographic materials.

Realizing that this was a rough estimate, and that the project would involve quite an amount of pre-editing and proofreading, we allowed for an overhead of 8 minutes per record for this.

Accordingly, we applied for what equals 1 full-time staff member for two months or 272 what we call "wage hours", ier. including social time, holidays etc.

As it is not realistic to assume that 1 person can sit at a terminal and do this type of work for a whole day, we asked for two persons and were allotted two clerical staff members familiar with cataloguing.

### Preparations

We have always maintained that the Danish National Bibliography for Cartographic Materials was a by-product of our card catalogues. Before 1990, the annual publication was produced by means of copying our catalogue cards and adapting these to the format of the bibliography by providing the entries with special headings consisting of geographical subject, subject, scale plus the price of the item, and by removing local notes and classification codes etc. Since 1986 we have kept extra copies of the catalogue cards in their original form with a cumulated edition by computer in mind.

The catalogue cards were now collated with their respective entries in the bibliographies, and discrepancies in cataloguing procedures during the five year period were amended, bringing the records to a uniform standard. As the computer record allows for more subject headings, these were added as well.

### Briefing the clerical staff

The two clerks were given a brief introduction to the Map Department and its holdings. The fact that they were both familiar with cataloguing monographs was a great advantage, but they had to have a thorough introduction to the format for cartographic materials as well. One preferred to work in the map room, the other in her own office. So for her I prepared two floppy disks and a sample of the information stored in our special function keys. For the first records, we simply sat together reformatting the records. Moreover, they were provided with a small self-made manual, and a copy of a catalogue card with marc-corrections served as a model.

Having formatted a record they would mark the entry in the bibliography with a diagonal line, "half a cross".

At the end of the day, they would make prints of their work for proofreading. In the beginning, it was necessary to proofread once more the corrected records, but later on it proved not necessary. When a bulk of fifty records were correct, they would transmit them to REX and completely cross them out in the bibliography, after having checked that the records were updated in REX.

The project started Midmay, and by August 23rd 1991 all records were reformatted and transmitted to REX.

The next phase took place in the computer department and the map department respectively.

The data had to go through various processes in the computer department. The previous year we had prepared a conversion table, so that the formatted records would appear in the proper form for the bibliography, and also in the correct sequence. But as the number of data to be processed multiples, so does the number of possible errors. So the first proof had to be checked both for system errors and formatting errors. The proofreading was done in the map department. The records that had to be amended were downloaded, corrected and retransmitted to REX. The system errors I would discuss with the computer department for possible solutions. The computer department now repeated their procedures and a new proof was made for the final proofreading. Errors found in this phase can only be corrected in either the word processing program or in the desk-top publishing program Ventura, where the lay-out for the bibliography is made.

#### Conclusion:

On average, it took an estimated 22 net minutes, i.e. half a "wage hour" to reformat a record, including the time spent on enriching the records and on the proofreading. As it was to serve two ends, the bibliography and our online computer base, it was more time-consuming than ordinary retrospective conversion. Entries in the medium of print will inevitably invite comparison. Hence a higher degree of homogeneity is required in print, than is necessary in an online catalogue. Also it took some time before the clerical staff became familiar with the technical terms used for cartographic materials, the format for maps, and the working process in general. They soon became very professional, so should we have continued retro-converting, the time spent per record would have been considerably lower.

Our online data have also served another purpose. Since 1992 The Danish Library Center inc. has published a cd-rom called BamC. This cd-rom contains, among other library catalogues, the Danish National Bibliography, including the one for cartographic materials since 1990. It is of course for sale,, and it is possible for the customer individually to define a version to suit his needs.

Retro-conversion by keyboarding as opposed to scanning is a slow process, but had the advantage, when done in-house, that relevant information can be added, such as subject headings, subsequent classification codes, etc.

I do, however, foresee many difficulties when it comes to the retro-conversion of our handwritten catalogues. Some of them are even in gothic hand, the cataloguing differs from AACR II, the classification codes are out of date, and the information level in general is lower than that of to-day. In my opinion though, it

would be all too time-consuming to compare the catalogue card with the item itself. So albeit on a lower level, I think it preferable to have all catalogues converted to our online system rather than working with both card catalogues and an online catalogue. As our card catalogues are arranged according to region and subject, we hope, that in a future conversion process done by scanning, it will not prove too difficult to enrich the computer records with this information.

The retro-conversion policy of the Royal Library in general.

The policy of the Royal Library as a whole is to have all catalogues retro-converted by the year 2000, primarily by means of scanning. In 1991, the library started a scanning project, and by now, more than 3000,000 catalogue cards have been scanned, reformatted by computer, and are retrievable in REX, or to put it differently, all foreign monographs from 1950 and onwards are retrievable in REX. The computer programme for conversion of ASCII-strings to our MARC format was developed by the Royal Library itself, and the standard of a reformatted record is on a very high level, needing only cursory proofreading and few subsequent corrections. Since autumn 1991, the Royal Library has offered an automated lending system to our readers, so the books can be ordered or reserved online. Therefore it is of great importance, that as many items as possible can be retrieved in REX. This of course puts great demands on the computer capacity, which is in the process of being enlarged, allowing for a total amount of 2,230,000 records.

During the summer and autumn of 1993 the 300,000 books have to be bar-coded. So for the second time within two years, all staff - without exception - are recruited to undertake this job.

The barcode stickers are produced from the scanned records, and are, in general, correct, the biggest problem being multipart monographs, where the system encounters difficulties in recognizing how many volumes a given work consists of.

## **NATIONAL AND INTERNATIONAL CO-OPERATION FOR THE EXCHANGE OF BIBLIOGRAPHIC RECORDS.**

Since the theme of the satellite meeting also deals with co-operation opportunities and the quality-quantity dilemma I should like to say a few words about the Danish research libraries and our co-operative project of derived cataloguing, SAMKAT, to which, since the late seventies, 20 research libraries have delivered data. Each library is responsible for the data it delivers. The libraries follow the AACR2

cataloguing rules and data are delivered in danMARC, the Danish version of the international MARC format.

A standard filtration- and reformatting programme operates, during the transmission of an entry to the work file in SAMKAT. During the filtration process local data from a number of libraries are removed. Records with identical control numbers will be displayed as one bibliographic description with holding statements from all records linked together by this number. Records with identical titles, but different control numbers will be displayed as several hits in the database.

The SAMKAT records form, together with the Danish union catalogue, the shared bibliographic database for the research libraries called ALBA, which contains appr. 7 million bibliographic records, representing the holdings of more than 200 Danish research libraries.

The ALBA base is maintained by The Computer Department of the Danish Research Libraries. The retrieval language is the CCL. The base covers the following data:

The acquisition of monographs by Danish research libraries since 1981.

The holdings of serials by Danish research libraries.

British National Bibliography and Library of Congress for monographs since 1981

The Danish National Bibliography. Books and the Danish National Bibliography. Serials

ISDS (International Serials Data System)

Deutsche Bibliographie 1992 ff.

The next stage in the Danish co-operation project will be the merging of the shared system for the research libraries, ALBA, and the shared system for the public libraries, BASIS.

The merging will mean the creation of an all-purpose bibliographic database for the entire Danish library system. This new base is called DANBIB and will, besides entries for books, serials, cartographic materials etc., also contain entries for sheet music, cd's and other audio visual materials. The DANBIB base is scheduled to be in full working order by the end of 1995.

When SAMKAT started, the online catalogue was a very novel thing in Denmark, and many hard copy catalogues and catalogue cards were produced on the basis of these records. Hence the AACR II was followed strictly and the danMARC format was made on the basis of these rules. But in the late eighties, after 10 years of experience, cataloguing practice was found to be in need of revision. A user group asked the National Library Authority to instigate a reform work in the cataloguing

area. I quote: "Several research libraries have independently been considering the application of existing cataloguing rules and formats in online catalogues. They reached the conclusion that it had become necessary to clarify certain principles (e.g. choice of bibliographic level, the priority of the online catalogue to the manual catalogue, main entry headings, forms of names, reduced redundancy) to ensure that the libraries do not reach different and incompatible conclusions when having to consider principles of cataloguing and subject registration seen in the light of considerable staff reductions".

Accordingly, a group was formed to look into these matters, the FORMKAT Group, and after several hearings, Guidelines on Reduced Cataloguing of Monographs in Research Libraries was published in 1989. They include recommendations on reuse, modification of the cataloguing rules concerning headings, standardized bibliographic level, for data entry of monographs (later also serials and analytics), and proposals of reduced redundancy.

To make a standardized reduction possible, the FORMKAT Group has tried to present a number of recommendations to those libraries, who want to reduce their cataloguing efforts. On the other hand they refer to the cataloguing rules and danMARC, whenever libraries want to exceed the standard level. Also the FORMKAT Group based their reductions on expectations of the fairly high level of the national bibliography.

This standard bibliographic level reflects the demands of the shared database ALBA. For some libraries it means a reduction, for others it means an increase of cataloguing effort.

One of the more controversial parts of the guidelines is the recommendation, that the distinction between main entry heading and added entry headings be abandoned. Headings as such are not considered necessary in an online catalogue. Furthermore it is recommended that the name of the author is entered as it appears on the item, "as on piece", and should a deviant form of the name appear later, a cross reference record is made, in which all forms of the author have the same value. The cross reference record in the online system has the same function as the cross reference known from the card catalogue: it will produce a hit in a search on any of the represented names. The system might even establish an automatic further search on all the names represented in the cross reference record.

In autumn 1988 a workinggroup was formed with the object of looking into the format for cartographic materials in order to include the format in dan-MARC and also to recommend a minimum record standard for ALBA based on a stan-

standard version of the format for cartographic materials. As we had already established a format at The Royal Library, based on the ukMARK format for cartographic materials, this format formed the basis for the danMARC format for cartographic materials. For the standard format for cartographic materials we found, that the most important access points for cartographic materials are place name, scale, year of publication, theme and, to a certain extent, size of the item. The four first access points were made mandatory in the standard format as they are part of the bibliographic description according to AACR II. As the theme is not always apparent from the bibliographic description, it was recommended that a special field should be reserved for this purpose.

The standard format for cartographic materials looks as follows:

Overhead:

The highlighted fields and subfields portray the standard format

As you can see, this is a very reduced format, and is considered a minimum, always allowing for extensions according to the full format. If, or should I say when, we start to retroconvert by scanning in the map department, I think that except for the information concerning scale, the record standard would meet the minimum level.

In the Royal Library, we follow the same policy as ALBA concerning authorized headings, and have consequently abandoned the 100 fields in the MARC format. The author is entered "as on piece" and cross reference records are created. Up to now the map room has made standardized geographical headings, basically because we produce a printed bibliography. For Danish material we use the forms agreed upon by the National Survey and Cadastre - Denmark. For foreign material we call countries by their Danish name, and other place names by their native name. But were we to have a pure online catalogue, we could follow the above mentioned policy, using the place name of the item and making cross reference records of other forms of the name. We have in fact already made a format for such a geographical cross reference record.

Would it be pure heresy for mapcurators to consider this policy in a joint online base for cartographic materials? And would it be feasible to have this feature on a cd-rom? If it is a possibility, it might save us a lot of work concerning authorized forms of geographical headings.

When I agreed to read this paper I had no idea of what I was letting myself in for. As is often the case, it seemed that the more I read and heard about co-operation and shared cataloguing the more ignorant I felt, and the more insurmountable

seemed the problems. What I did gather though, was that the overall problem is standards.

As to format, UniMARC might be a choice, character sets have to be agreed upon, conversion tables made, etc. And will we choose an online base (the network solution) or a cd-rom as the end product?

Denmark is a small country, and Danish a language spoken by few. And although the Map department of the Royal Library is a large one, there are not many more map libraries within Denmark. Mapcuratorship is, so to speak, a fringe activity in the Danish library world. The data that Denmark can deliver to a shared international base, will not be numerous; the national bibliography for cartographic materials since 1986, and perhaps later on retroconverted records. Hopefully, our overworked computer department will find time to make a conversion program for these data, so the data could meet the specifications of the base, and vice versa for the data we receive. The map department would greatly benefit from receiving retroconverted records from other countries. This is wishful thinking, but if the contents of a publication such as Dr. Koemans Atlantes Neerlandici was suddenly accessible as MARC-formatted records, many of our most precious atlases would, as if by magic, be indexed and online retrievable.

Within LIBER Groupe des Cartothécaires, a paper by Tony Campbell of the British Library has been distributed, dealing with possible future international co-operation in regard to exchange of data in the cartographic materials field, pinpointing the various aspects that have to be agreed upon before the setting up of a shared base. Allow me to take up a few of these aspects.

Concerning the quality/quantity aspect I think it impossible to work with the single record approach, with one authoritative record for each bibliographic item. I am, however, in favour of minimum standards, so that future records will at least meet an agreed minimum standard. All records could be marked somehow in a coded field indicating on what level they were catalogued or whether they were machine-converted or retroconverted from substandard information sources.

As regards geographical thesaurus and name thesaurus, the system adopted in Danish research libraries, which I mentioned earlier, seems to work well, in other words, the information concerning author or place name is entered in the form it appears on the item, and cross reference records with co-ordinated name forms are created. The ideal solution would be that all recorded name forms in the cross reference record would automatically produce the group of entries in question. Whether this system might work in a cd-rom environment would need to be looked into.

Under what auspices the co-operation should take place would also have to be investigated. In all events, if a co-operation project for cartographic materials is decided upon, it is important to rely upon the experience already gained from other co-operation projects, as for instance the European National Libraries Project on CD-ROM. A paper on the results, experiences and perspectives of this project will be given at the IFLA conference.

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# danMARC for CARTOGRAPHIC MATERIALS. Minimum version

| FIELD | SUBFIELDS |                                                                                                  |
|-------|-----------|--------------------------------------------------------------------------------------------------|
| 001   | "a        | Record identifier                                                                                |
| 008   |           | Coded information block                                                                          |
|       | "s        | Material designation e = cartographic material, printed<br>f = cartographic material, manuscript |
|       | "t        | Form of publication codes (m, p, a)                                                              |
|       | "v        | Cataloguing level                                                                                |
| 021   |           | ISBN                                                                                             |
|       | "a        | ISBN                                                                                             |
|       | "x        | Erroneous ISBN                                                                                   |
| 245   |           | Title and statement of responsibility                                                            |
|       | "a        | Title proper                                                                                     |
|       | "c        | Other title information                                                                          |
| 248   |           | Second level information                                                                         |
|       | "g        | Number or designation of volume or part                                                          |
|       | "a        | Title proper                                                                                     |
|       | "m        | Scale                                                                                            |
| 250   |           | Edition statement                                                                                |
|       | "a        | Edition (if different from 1st. edition)                                                         |
| 256   |           | Mathematical data                                                                                |
|       | "a        | Statement of scale                                                                               |
| 260   |           | Publication                                                                                      |
|       | "b        | Name of publisher                                                                                |
|       | "c        | Date of publication                                                                              |
| 300   |           | Physical description                                                                             |
|       | "a        | Indication of the number of pieces                                                               |
|       | "n        | Specific material designation                                                                    |
|       | "c        | Dimensions                                                                                       |
| 440   |           | Series - access point form                                                                       |
|       | "a        | Title proper of series                                                                           |
|       | "v        | Numbering within series                                                                          |
| 530   |           | Contents note                                                                                    |
|       | "a        | Contents note/note on inset                                                                      |
| 539   |           | General Notes                                                                                    |
|       | "a        | General notes/note on base map                                                                   |
| 621   |           | Subject headings                                                                                 |
|       | "j        | Subject                                                                                          |

700

"a  
"h

Personal name  
Entry  
Forename

710

"a  
"c

Corporate body name/meeting  
Entry element  
Subordinate body

Record catalogued according to the full format

001 00 \*ax500015464  
008 00 \*as1985\*bdk\*1spa\*se\*tm\*v0  
089 00 \*a1111\*b39\*c1986  
096 00 \*aKBK 1111-39-1986/6\*b1986-427/2  
245 10 \*aDinamarca de todo coraz'on\*cmapa e informaci'on de viajes 1986\*eOfici  
a de Turismo de Dinamarca ; LegindKort/Folia  
256 00 \*aMålestok 1:730 000  
260 00 \*aCopenhagen\*bla oficina de turismo\*c1985\*r<Herlev>\*tRecato  
300 00 \*a1\*nkort\*bi farver\*c49 x 42 cm, falset til 21 x 10 cm  
530 00 \*aKort over Bornholm indsat  
530 00 \*aMed vejlængdetabel og turistinformationer  
559 00 \*aTrykt recto-verso  
559 00 \*aTitlen gengivet fra omslaget  
595 00 \*aKF86  
599 00 \*bKBK910516  
620 00 \*aDanmark\*bTurisme\*c1:730 000  
710 20 \*aOficina de Turismo de Dinamarca  
710 20 \*aLegindKort/Folia

Record catalogued according to the standard (minimum) format

001 00 \*ax500015464:kbk0  
008 00 \*se\*tm\*v3  
245 00 \*aDinamarca de todo corazón \*cmapa e información de viajes 1986  
256 00 \*aMålestok 1:730 000  
260 00 \*bOficina de Turismo de Dinamarca \*c1985  
300 00 \*a1 \*nkort \*c49 x 42 cm, falset til 21 x 10 cm  
530 00 \*aKort over Bornholm indsat  
530 00 \*aMed vejlængdetabel og turistinformationer  
559 00 \*aTrykt recto-verso  
559 00 \*aTitlen gengivet fra omslaget  
621 00 \*jTurisme  
710 00 \*aOficina de Turismo de Dinamarca  
710 00 \*aLegindKort/Folia