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The UTLAS Authority System

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University of Toronto Library Automation Systems (UTLAS) The UTLAS Authority System

MS. GINSBERG: First of all, let me say that I have no first hand experience using any automated authority system, nor do I purport to be a spokesman for UTLAS. However, the York University Law Library has recently become a full user of the UTLAS Cataloguing Support System (CATSS) and is now sharing a file with our main library (Scott). We are also just beginning to use Scott's Name Authority Maintenance System (NAMS) and Subject Authority Maintenance System (SAMS), so it was felt that I might be able to tell you something of these authority systems such as they are.

General File Structure[1]

The basis for all UTLAS services is the management of databases developed to ensure the greatest flexibility for the user libraries. Each user library can enter and maintain a database of library records which are accessible online and from which a variety of printed cards, computer output microform (COM) and specialized products can be produced. Source files currently available are LC Monographs, LC Serials, LC Films, NLM, Fichier Marz Quebecois, CAN/MARC Monographs (National Library of Canada, (NLC)) and CAN/MARC Serial (NCL). These soure files are used for record derivation by libraries using the UTLAS system. The records that are in the source files remain there and are not modified in any way when touched by a user library. The user library makes a copy of the record from the source file and writes it into its own file, making any necessary modifications.

Example 1 illustrates the file structure and record structure in the UTLAS authority environment. The linkage between the index elements and the actual data is done through the record sequence number (RSN) or authority sequence number (ASN). (Examples 2 and 3) The Introduction in July 1978 of authority files by UTLAS allows the access points to be managed independently of the bibliographic records in which they belong. The authority files are stored in a separate file with linkages to the bibliographic records. Thus, when the access point changes, it need only be changed once in the authority record which causes a conversion of that name in every bibliographic record which had been linked to it by an online validation process.

Types of Authority Files[2]

Source Authority Files

Source Authority Files exist on the system in much the same way as Source Files of bibliographic records. At present, the Authority Source Files availabe are: LC Name Authority File (190,000, 80,000 waiting to be loaded, a weekly tape will be received) and Repertoire de vedettesmatiere (Laval Subject Heading File consisting

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[1] J. CAIN, THE UTLAS AUTHORITY ENVIRONMENT (1978). Presentation to the workshop "What's in a Name—Control of Catalogue Records through Automated Authority Files," Toronto, Ontario, University of Toronto Library Automation Systems; Interview with Joanna Rood, UTLAS (June 19,1980).

[2] UTLAS, BASIC FILE AND RECORD STRUCTURES, TECHNICAL DOCUMENT NO. 19 (1980).

of 27,500 French language subject headings translated from LC). A test tape for the NLC Name Authority File (85,000 records) was recently received. The LC Subject Authority File (110,000 records) to the end of 1978 has been mounted in one of the SHARAF files so that it may be updated by quarterly additions and changes by SHARAF members.

Shared Authority Files

In this type, a group of users creates and jointly uses a single authority file (SHARAF). There are two separate parts to the joint authority file allowing for difference of authority practices depending on cataloging rules in use by a particular library.

Local File

Here, a library creates a local private authority file linked to the local bibliographic file where local headings need to be recorded. The local bibliographic file can also be linked to both Shared Authority Files and Source Authority Files if desired. Different headings in the same bibliographic record can also be linked to different levels of authority files.

Format

I should take a minute here to explain that the UTLAS internal authority format (IAF) is compatible with both LC MARC and CAN/MARC authority formats.

Levels of Operation[3]

User libraries may use the authority facility at various levels of operation.

Level 1 Display of Authority Records

Users *not* subscribing to the authority facility can retrieve and display source authority records for cataloging information purposes by means of the browsable index.

Level 2 Search and Input

The user searches the authority database by heading, using the browsable access capability, and creates original authority records for unique headings not found.

Level 3 Online Verification, Linkage and Generation of Cross References

The system verifies the headings in a bibliographic record against the headings contained in authority records available on the system. Matching authority and bibliographic headings are then linked together and cross references are generated in the clients' COM, printed or online catalogs.

Level 4 Retrospective Authority Control

The system creates mini-authority records from user bibliographic files and links bibliographic records to matching authority records. If there are no matching records, the system generates abbreviated authority records from the text of the

[3] UTLAS NEWSLETTER, March 1980, at 2.

headings in each bibliographic record which are available to the user for editing, etc. These abbreviated records are linked to the appropriate fields in the bibliographic records.

SHARAF[4]
(Shared Authority File)

The SHARAF project began in December 1979 by a group of UTLAS user libraries and is developed and maintained through a Board of Directors. Its purpose was to create for Canadian UTLAS user libraries, a basic machine-readable source file of names, subject headings and series to supplement records produced by national agencies such as LC and NLC. This source, containing approximately 250,000 retrospective name authority records converted from user card authority files, plus 110,000 subject authority records from the 1978 LC tapes, forms, in addition to the national source files, the basis of a network of files that can be used by UTLAS users, and allows for the linking of bibliographic records and authority records.

There are two parts to the SHARAF FILE:

Part I - Research Library File (based on University of British Columbia (UBC) manual authority records)

The libraries of UBC, Simon Fraser University, University of Victoria, University of Alberta at Edmonton, Edmonton Public Library and Metro Toronto Public Library have built up a file of approximately 250,000 records.

In this file, whatever existed in manual authority files was put into a machine-readable database without making any decisions about what cataloging rules this file used. Standards for current authority records are—AACR I for Canadian headings and all others established prior to 1968. If used by LC since 1968 then the standard is AACR I as applied by LC. LC headings will be revised to AACR II form of entry.

There are, as yet, no linkages created to bibliographic records of those who created this file (although Mississauga is linking in the basic file. The next phase involves the individual libraries linking their bibliographic records to the SHARAF file. Once linkage begins, COM catalogs will begin to include all "see" and "see also" references and scope notes. This phase will also involve the linking of local authority records to bibliographic records and the linking of national agency form.

PART II - Public Library File (Mississauga Public Library)

The public library portion of the SHARAF file contains approximately 60,000 name authority records created by the Mississauga Public Library. In this case, it was decided not to use LC forms of names, but forms based on the British text of AACR I with references from LC forms. Mississauga also created authority records for all new names entering the system and linked the newly created bibliographic records to them as they went along. They later began a retrospective linking program.

The NLC is participating in SHARAF by verifying and upgrading SHARAF records containing Canadian headings and resolving conflicts between NLC and other source records.

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[4] J. CAIN, PREPARING FOR AACR II BY USING AN AUTOMATED AUTHORITY SYSTEM: THE CANADIAN EXPERIENCE TO DATE (1980). Presentation at a joint workshop "AACR II: The Problems of Implementation," Ottawa, CASLIS.

Conversion to AACR II

SHARAF's file does not exist in AACR II form at the moment. However, once the linkages are complete, in order to change a form of entry to comply with AACR II, only the authority record need be changed and this change will be reflected in all members' linked bibiographic files. SHARAF members plan to have the changes done by designated libraries (Deputy Sharaf's). Once all libraries have converted to AACR II in 1981, the difference between the two parts of the SHARAF file will be minimal.

York University Libraries In-House Authority Maintenance System: SAMS & NAMS[5]

Both SAMS and NAMS represent a small but positive interim step in the progression towards an online authority system, and of the two, SAMS is by far the more "sophisticated" system.

SAMS (Example 4)

York began the SAMS project in the early seventies. Keypunchers in Scott's Data Entry Department, working from the cards in the Subject Authority gradually converted these records into machine-readable form. The cards were discarded in the process and now York's Subject Authority records are held on tapes made by York's Systems Department. These tapes are used to generate a weekly listing of SAMS data on microfiche for the use in the Cataloging Departments at Law and Scott Libraries. To make SAMS tapes, the Systems Department uses the UTLAS tapes of bibliographic items entered into York's own database. The 600's (subject fields) are stripped off the UTLAS tapes and run against the existing SAMS tape. What remains after all the matching has been completed is a list of exceptions—subjects which are new and/or problems (for example, a new subject which matches a cross reference in SAMS is automatically rejected). Exception reports are checked every week against the Library of Congress Subject Headings on Fiche. At this point, cross references and changes are coded for entry or deletion (the new subject itself was automatically added to SAMS in the matching process), and inaccurate subjects are changed in the database.

You can perhaps see by this brief account of how SAMS works, that the entire system is based on exceptions in order to save unnecessary staff time and delay. Any subjects taken from an LC source record are not checked before they are entered into the database as part of a bibliographic entry. Staff doing "original" or non - LC cataloging however are expected to check Library of Congress Subject Headings before entry, but the final check is reserved for the exceptions report.

The staff in the Scott Cataloging Department generally feels that the SAMS system works well. There are, however, some limitations and I will just name a few of these which are more apparent.

Limitations

An element of delay leading to a certain loss of file integrity is caused by the fact that, although the new subjects are incorporated into SAMS at the time the two tapes are run against one another, the old, incorrect subjects already in SAMS are not removed until after the exception report has been checked and the subjects

[5] Interviews with staff members of the Scott Library, York University (May - June 1980).

changed in the database. The degree of accuracy and understanding required in the checking of the exceptions report against LCSH makes it a job which is best done by a fairly high level technician or a librarian depending on the availability of staff. There is as yet, no mechanism which allows for the automatic addition of new cross references or revision of existing subjects. Cross references which *are* included are, at present, on a separate fiche, but will eventually be merged with the main file. SAMS also does not include "see also" references as they are thought to be too time consuming and costly to maintain and were not in the original manual Subject Authority File.

The last limitation I will mention, is one which any library relying on an outside service has experienced at one time or another. This reliance puts the library's own systems and workflow at the mercy of schedules, priorities and problems outside the control of the library. Any delay on the part of the service causes a severe delay in data entry which in turn has grave consequences in terms of file accuracy. None of these limitations are peculiar to York's system. The main factor of delay in getting information in and out of the system usually exists in all cases where the currency and accuracy of the file is of supreme importance, but the file does not exist online.

NAMS

First of all, let me stress that NAMS is *not* a true authority system as such. Names are stripped off bibliographic records held on the UTLAS tapes of York's records when received. These names are, however, simply added to the existing NAMS tapes from which are generated. In order to drop a name from NAMS, that name would first have to be eliminated from the bibliographic record(s) in the York database. A new listing of NAMS, minus those names that have been deleted from the bibliographic records, is generated quarterly at the time a new COM fiche is produced. As you can see we are faced again with delay which causes inaccuracies in the file. However, this case is different in that there is no system control as in SAMS. It is entirely possible to find several different forms of an individual's name listed one under the other. There are also no cross references included. Because NAMS is not a true authority system, but simply an "indication of use," Scott has continued to maintain a complete, full card Name Authority File which will provide a good solid base for any future automaed authority system.

As I have indicated previously, the York Law Library has only just begun using NAMS and SAMS. To date, we find ourselves in the "usual" position of a Special Library which is at once part of and distinct from its main library. Our subject requirements are often unique and necessary, but we have had to sacrifice autonomy for standardization and the goal of a unified union catalog.

I should add here that many of our most important demands have been met. The staff at Scott is most cooperative and helpful and understand our "special" needs. Also, since the Law and Scott Libraries now share a common file and the Law Library's entries are beginning to appear on the COM fiche, the staff at Scott is becoming more aware of the reasons for some of the special entries we have used. There are still some unsolved problems which revolve around the fact that the cataloging is being done in two separate places, but we hope that these will be ironed out in the near future.

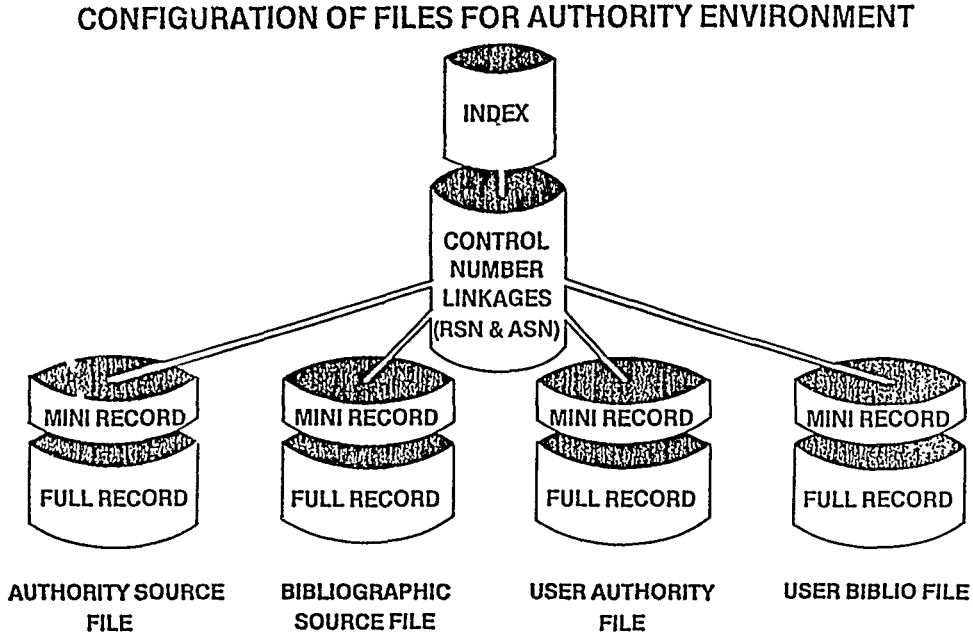
Future Plans

This is a little like gazing into a crystal ball. Obviously the York Law Library will be drawn with our main library in whatever direction, and that direction appears

to be towards a full inhouse authority system run by our own minicomputer which the Scott Library hopes to obtain in the near future. In this best of all worlds, the online authority system will be linked to bibliographic records held in the database in the same way described in the section about UTLAS, and all changes such as those necessitated by AACR II would be greatly facilitated.

In the interim, York proposes a batch record modification facility. Data for changes would be coded into coding forms and entered through terminals offline from any large computer facility, listed, edited and corrected offline, then transmitted in batches to the computer to be held for batch updating of the inhouse catalog file overnight or once a week. In a later phase this could be done in the same manner using an in-house minicomputer.[6]

Example 1



[6] M. STEVENS, A LOW-COST IN-HOUSE CATALOGING SUPPORT FACILITY 12 (1979).

Example 2

Bibliographic Record Linked to Authority Record

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RSN 99064904 DCH  79MAY23  TCH 1614 MDEM PTC    1 STA .C.. OPN DEMA
UPD 0000 WHO
DFC 78DEC18  UCH  79MAY23 SNR  51116706

 1:  790523  2:     s 3:    1979  5:   nyu 13:    1 14:      1
16:   a 17:    eng 19:    d 30:     m 31:     a 33:    i

001        0001$a 78026865
010        0001$a 78026865
020        0001$a0448230372 :$c$13.00
040        0001$aae$beng
043        0001$an-cn---
046        0001$aLC
050  0     0001$aCT310.T76$bA35
082        0001$a971.06/44/0924$aB
090 00     0001$aRE/56/1979$beduc
100 10     0001$aTrudeau; Margaret. ((ASN=5517273))

245 00     0001$aBeyond reason /$cby Margaret Trudeau.
260 0      0001$aNew York :$bPaddington Press,$c1978.
300        0001$a256 p., (16) leaves of plates :$bill. ;$c25
                cm.
500        0001$aIncludes index.
600 10     0001$aTrudeau, Margaret. ((ASN=05517273))

650  0     0001$aPrime ministers' wives$zCanada$xBiography.
651  0     0001$aCanada$xBiography.
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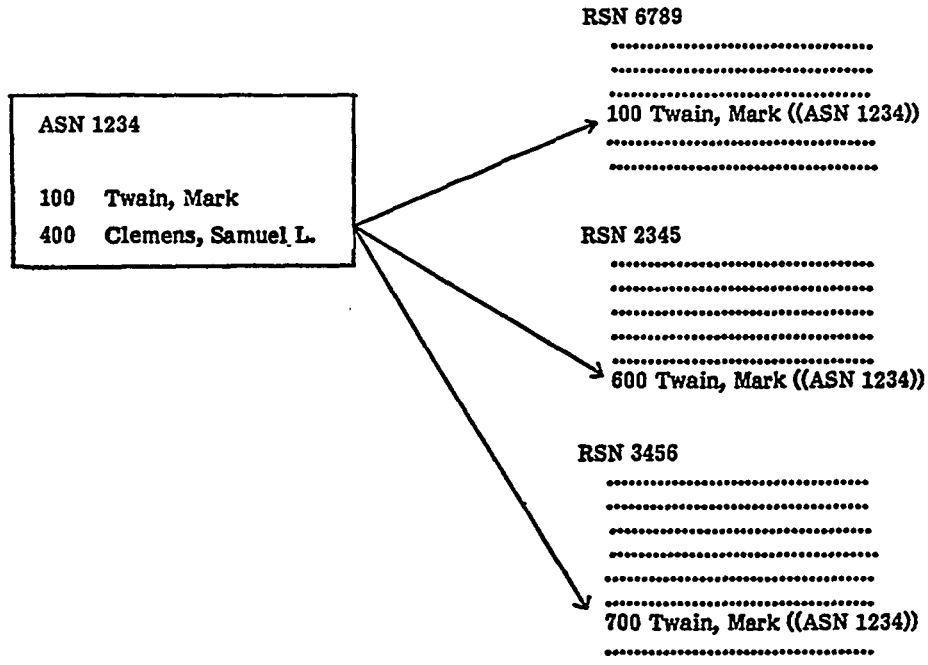
LINKED FIELDS

Example 3

ASN 1234 may link itself to many different fields in the bibliographic record.

Example:



If a bibliographic record is entered with a 100, 600 or 700 tag containing the text "Clemens, Samuel L." the system makes a match on the cross reference of ASN 1234 and substitutes the text "Twain, Mark" into the record.

RSN 9999
100 Clemens, Samuel L.

before validation

RSN 9999
100 Twain, Mark ((ASN 1234))

after validation

Example 4

MASTER SUBJECT AUTHORITY FILE-SUBJECT HEARING LIST

KEY	LOCATION	SUBJECT HEADINGS AND SCOPE NOTES
563901589 Y F H		STANDARD BANK OF BRITISH SOUTH AFRICA/. THE NAME OF THE STANDARD BANK OF BRITISH SOUTH AFRICA (ESTABLISHED IN LONDON IN OCT. 1862) WAS CHANGED IN FEB. 1883 TO STANDARD BANK OF SOUTH AFRICA LIMITED. THE NAME OF THE LONDON BANK WAS CHANGED TO STANDARD BANK LIMITED IN MAR. 1962 WHEN ITS BUSINESS IN SOUTH AFRICA AND ITS PREVIOUS NAME STANDARD BANK OF SOUTH AFRICA LIMITED WERE TRANSFERRED TO A WHOLLY-OWNED SUBSIDIARY IN JOHANNESBURG. WORKS BY THESE BANKS ARE ENTERED UN/.
564001587 Y F H		STANDARD BANK OF BRITISH SOUTH AFRICA. (CARD 2)/. DER THE FOLLOWING HEADINGS ACCORDING TO THE NAME USED AT THE TIME OF PUBLICATION: STANDARD BANK OF BRITISH SOUTH AFRICA. STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1883). STANDARD BANK LIMITED. STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1962). SUBJECT ENTRY: WORKS ABOUT THESE BANKS ARE ENTERED UNDER THE NAME USED DURING THE LATEST PERIOD COVERED/.
561540539 Y F		STANDARD BANK OF SOUTH AFRICA LIMITED/. L61840531 LONDON. STANDARD BANK OF SOUTH AFRICA/. S61640536 STANDARD BANK VAN SUID-AFRIKA BEPERK/. S61740534 STANDARD BANK OF SOUTH AFRICA. LONDON/.
S64301581 Y F H		STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1883)/. THE NAME OF THE STANDARD BANK OF BRITISH SOUTH AFRICA (ESTABLISHED IN LONDON IN OCT. 1862) WAS CHANGED IN FEB. 1883 TO STANDARD BANK OF SOUTH AFRICA LIMITED. THE NAME OF THE LONDON BANK WAS CHANGED TO STANDARD BANK LIMITED IN MAR. 1962 WHEN ITS BUSINESS IN SOUTH AFRICA AND ITS PREVIOUS NAME STANDARD BANK OF SOUTH AFRICA LIMITED WERE TRANSFERRED TO A WHOLLY-OWNED SUBSIDIARY IN JOHANNESBURG. WORKS BY THESE BANKS ARE ENTERED UN/.
S64501586 Y F H		STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1883)/. L64701581 LONDON. STANDARD BANK OF SOUTH AFRICA/. S64601584 STANDARD BANK OF SOUTH AFRICA. LONDON/. S64801580 STANDARD BANK VAN SUID-AFRIKA BEPERK/.
S64401589 Y F H		STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1883). (CARD 2)/. DER THE FOLLOWING HEADINGS ACCORDING TO THE NAME USED AT THE TIME OF PUBLICATION: STANDARD BANK OF BRITISH SOUTH AFRICA. STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1883). STANDARD BANK LIMITED. STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1962). SUBJECT ENTRY: WORKS ABOUT THESE BANKS ARE ENTERED UNDER THE NAME USED DURING THE LATEST PERIOD COVERED/.
S65201582 Y F H		STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1962)/. THE NAME OF THE STANDARD BANK OF BRITISH SOUTH AFRICA (ESTABLISHED IN LONDON IN OCT. 1862) WAS CHANGED IN FEB. 1883 TO STANDARD BANK OF SOUTH AFRICA LIMITED. THE NAME OF THE LONDON BANK WAS CHANGED TO STANDARD BANK LIMITED IN MAR. 1962 WHEN ITS BUSINESS IN SOUTH AFRICA AND ITS PREVIOUS NAME STANDARD BANK OF SOUTH AFRICA LIMITED WERE TRANSFERRED TO A WHOLLY-OWNED SUBSIDIARY IN JOHANNESBURG. WORKS BY THESE BANKS ARE ENTERED UN/.
S65301580 Y F H		STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1962). (CARD 2)/. DER THE FOLLOWING HEADINGS ACCORDING TO THE NAME USED AT THE TIME OF PUBLICATION: STANDARD BANK OF BRITISH SOUTH AFRICA. STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1883). STANDARD BANK LIMITED. STANDARD BANK OF SOUTH AFRICA LIMITED (FOUNDED 1962). SUBJECT ENTRY: WORKS ABOUT THESE BANKS ARE ENTERED UNDER THE NAME USED DURING THE LATEST PERIOD COVERED/.
S57223059 F		STANDARD BANK OF SOUTH AFRICA LIMITED/ HISTORY/.
S33452152 F A		STANDARD CORPORATION, OGDEN, UTAH./.
S83191385 Y M		Standard Fruit & Steamship Co./.
S20692078 Y		STANDARD FRUIT & STEAMSHIP CO./ HISTORY/.
S57325709 Y F H		Standard language./. L01423976 LANGUAGE STANDARDIZATION/. L06824004 LITERARY LANGUAGE/. N04423950 NORMATIVE GRAMMAR/. P33450803 PRESCRIPTIVE GRAMMAR/.
S49232364 F		STANDARD LIFE INSURANCE COMPANY/.
S57325717 Y R		STANDARD NOVELS/.
S76433349 Y		STANDARD NOVELS (R. BENTLEY)/.
S57325725 Y F A H		Standard Oil Company./.
S57325733 A		STANDARD OIL COMPANY (CALIFORNIA)/.

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