FAST:[1] Development of Simplified Headings for Metadata

Rebecca J. Dean
OCLC

Introduction

The enormous volume and rapid growth of resources available on the World Wide Web as well as the emergence of numerous metadata schemas have spurred a re-examination of the way subject data are provided for Web resources. There is broad agreement that a subject schema for metadata must exhibit both simplicity and interoperability. Simplicity refers to the usability by non-catalogers. Interoperability enables users to search across both discipline boundaries and across information retrieval and storage systems. Additional requirements identified by ALCTS/SAC/Subcommittee (1999) specify that the schema should:

- Be simple and easy to apply and to comprehend,
- Be intuitive so that sophisticated training in subject indexing and classification, while highly desirable, is not required in order to implement,
- Be logical so that it requires the least effort to understand and implement,
- Be scalable for implementation from the simplest to the most sophisticated.Another central issue involving the syntax revolves around the

choice of pre-coordination or post-coordination. Both have precedence in cataloging and indexing practices. Subject vocabularies used in traditional cataloging typically consist of pre-coordinated subject heading strings, while controlled vocabularies used in online databases are mostly single-concept descriptors, relying on post-coordination for complex subjects. For the sake of simplicity and semantic interoperability, the post-coordinate approach is more in line with the basic premises and characteristics of the online environment. Chan et. al (2001) provides additional background on the metadata requirements particularly as they relate to Dublin Core applications.

The ALCTS/SAC/Subcommittee recommended that metadata for subject analysis of Web resources include a mixture of keywords and controlled vocabulary. The potential sources of controlled vocabulary the Subcommittee identified included:

- Using an existing schema(s),
- Adapting or modifying existing schema(s),
- Developing new schema(s).

Each of these options offers clear advantages. The use of an existing schema is certainly the simplest approach if a suitable one can be found. Of the existing schema, LCSH is the most obvious choice, but its complexity greatly limits its use by nonprofessionals. There are many excellent subject specific schemas available but, since the Web is so interdisciplinary,

[1]FAST is an OCLC Office of Research Project. The members of the FAST team are: Edward T. O'Neill, Eric Childress, Rebecca Dean, Kerre Kammerer, Diane Vizine-Goetz, Anya Dyer (OCLC, Dublin, OH, USA); Lois Mai Chan (University of Kentucky, Lexington, Kentucky, USA) ; Lynn El-Hoshy (Library of Congress, Washington D.C., USA)

combining diverse schemas is likely to create significant interoperability problems. Obtaining rights to the required schemas could also pose a serious problem.
At first glance, developing an entirely new schema appears to be very attractive. However, the effort required to develop a new subject indexing system appears considerably less attractive upon further examination. The cost would be very high without any guarantee the new schema would necessarily be superior to one of the existing schema. It is quite possible that a new system could trade a set of known problems with its own set of unknown problems. It became quickly clear that attempting to develop a system as comprehensive as LCSH would be very challenging. As was concluded by the ALCTS/SAC/Subcommittee, the options of modifying an existing schema appeared more attractive. As a result, the FAST project team concluded that the most viable option for a general-purpose metadata subject schema was to adapt LCSH.
This new schema, known as FAST (Faceted Application of Subject Terminology), is derived from LCSH but will be applied with a simpler syntax. The objective of the FAST project is to develop a subject-heading schema based on LCSH suitable for metadata that is easy-to-use, understand, and maintain. To achieve this objective, this new schema is being designed to minimize the need to construct new headings and to simplify the syntax while retaining the richness of the LCSH vocabulary. The primary data source used for the research effort was OCLC's WorldCat database, which contains bibliographic records containing approximately eight million unique topical and geographic headings.

Library of Congress Subject Headings

LCSH is the most widely used indexing vocabulary and offers many significant advantages:

- Its rich vocabulary covers all subject areas,
- It has the strong institutional support of the Library of Congress,
- It imposes synonym and homograph control,
- It has been extensively used by libraries,
- It is contained in millions of bibliographic records, and
- It has a long and well-documented history.

While LCSH has served libraries and their patrons well for over a century, its complexity greatly restricts its use beyond the traditional cataloging environment. It was designed for card catalogs and excelled in that environment. However, because real estate on a 3x5 card is limited and each printed subject heading requires a new card, the number of headings per item that can be assigned was severely restricted. Since the card catalog is incompatible with post-coordination, the pre-coordinated headings were the only option available.
LCSH is not a true thesaurus in the sense that it is not a comprehensive list of all valid subject headings. Rather LCSH combines authorities, now five volumes in their printed form, with a four-volume manual of rules detailing the requirements for creating headings that are not established in the authority file and for the further subdivision of the established headings.
The rules for using free-floating subdivisions controlled by pattern headings illustrate some of these complexities. Under specified conditions, these free-floating subdivisions can be added to established headings. The scope of patterns is limited to particular types (patterns) of headings. For example, **Burns and scalds—Patients—Family relationships** is a valid heading formed by adding two pattern subdivisions to the established heading **Burns and scalds.** The subdivision **'Patients'** is one of several hundred subdivisions that can be used with headings for diseases and other medical conditions. Therefore it can be used to subdivide

Burns and scalds. However, the addition of **Patients** changes the meaning of the heading from a medical condition to a class of persons. Now, since **Family relationships** is authorized under the pattern for classes of persons, it can also be added to complete the heading.
Other examples of some of the complexities are illustrated a type of authority records known as 'multiples'. Multiples are headings that establish a pattern of use, for example, the subdivision **$x Translating into French [German, etc.],** indicates that the language 'French' can be replaced with the name of any established language. The 'multiple' heading that actually appears in the 1xx field of an authority record should never be used in its multiple form in a bibliographic record. All the possible headings that can be created using 'multiples' are not included in LCSH.
A third area that illustrates the complexities is music. Some of the complexities involved: determining the group for each solo instrument (e.g., wind instruments), the ordering of instruments within the individual group, when a heading should and should not be qualified (e.g., Concertos). Overall, music accounted for the largest number of correctly constructed headings represented by the fewest number of authority records.
While the rich vocabulary and semantic relationships in LCSH provide subject access far beyond the capabilities of keywords, its complex syntax presents a stumbling block that limits its application beyond the traditional cataloging environment. Not only are the rules for patterns headings complex, their application requires extensive domain knowledge since there is no explicit coding that identifies which pattern subdivisions are appropriate for particular headings. Although FAST will retain headings authorized under these rules, they will be established in the authority file, effectively hiding the complexity of rules under which they were created.
The LCSH environment has resulted in a complex system requiring skilled professionals for its successful application and has prompted several simplification attempts. Among these, the Subject Subdivisions Conference (The Future of Subdivisions, 1992) attempted to simplify the application of LCSH subdivisions. Recently, the ALCTS/SAC/Subcommittee on Metadata and Subject Analysis (Subject Data in the Metadata Record…, 1999) recommended that LCSH strings be broken up [faceted] into topic, place, period, language, etc., particularly in situations where non-catalogers are assigning the headings. The Library of Congress has also embarked on a series of efforts to simplify LCSH.

The FAST Schema

After reviewing the previous attempts to update LCSH or to provide other subject schema, OCLC decided to develop the FAST schema. While FAST is derived from LCSH, it has been redesigned as a post-coordinated faceted vocabulary for an online environment. Specifically it is designed to:

- Be usable by people with minimal training and experience,
- Enable a broad range of users to assign subject terminology to Web resources,Be amenable to automated authority control,
- Be compatible with use as embedded metadata,
- Focus on making use of LCSH as a post-coordinate system in an online environment.

The first phase of the FAST development includes the development of facets based on the vocabulary found in LCSH topical and geographic headings and is limited to six facets: topical, geographic, form, period, with the most recent work focused on faceting personal and corporate names. This will leave headings for conference/meetings, uniform titles and name-

title entries for future phases. With the exception of the period facet, all FAST headings will be fully established in a FAST authority file.

Topical Facet

The topical facet consists of topical main headings and their corresponding general subdivisions. FAST topical headings look very similar to the established form of LCSH topical headings with the exception that established headings will include all commonly used (i.e., free-floating) topical subdivisions and each of the common multiple headings will be individually established. FAST topical headings will be created from:

- LCSH main headings from topical headings (650) assigned to MARC records,
- All associated general ($x) subdivisions from any type of LCSH heading,
- Period subdivisions containing topical aspects from any type of LCSH heading.

All topical headings strings will be established in an authority file. Examples of typical FAST topical headings are shown below:

Project management $x Data processing
Colombian poetry
Blacksmithing $x Equipment and supplies
Epic literature $x History and criticism
Pets and travel
Quartets (Pianos (2), percussion)
Natural gas pipelines $x Electric equipment
School psychologists
Blood banks
Loudspeakers $x Design and construction
Burns and scalds $x Patients $x Family relationships

FAST headings retain the hierarchical structure of LCSH, but topical subdivisions only can be subdivided by topical subdivisions, geographic headings can only be subdivided by geographic headings, etc. For example, in FAST, one would not see headings of the type:

Colombian poetry $v Indexes
Pets and travel $v Guidebooks
Quartets (Pianos (2), percussion) $v Scores and parts
Blood banks $z Italy $z Florence
Italy $x History $y To 476

Geographic Facet

The geographic facet includes all geographic names, and following the practice of the Library of Congress, populated places are the default and are not qualified by type of geographic unit.However, in FAST, these place names will be established and used in indirect order. For example, **Ohio—Columbus** is the established form in FAST rather than the direct order form, **Columbus (Ohio)**. In LCSH, place names used as main headings are entered in direct order, but when they are used as subdivisions, those representing localities appear in indirect order.

First level geographic names in FAST will be far more limited than in LCSH. They will be restricted to names from the *Geographic Area Codes* table. Linking the first level entries with the Geographic Area Codes also provides additional specificity and hierarchical structure to the headings. In this way, the Geographic Area Codes can be used to limit a search. As with topical headings, all geographic headings will be established in an authority file.
During the process of linking first level heading entries with Geographic Area Codes, some established geographic headings could only be associated with the code for 'Other'. These include headings associated with geographic locations for the earth, sun and the plants in its solar system, as well as comets, stars, satellites, and plants in other galaxies. Creating a set of headings with 'Other' as the first level did not meet the goal of providing specificity, and after evaluating the headings that were associated with 'Other', a proposal for new Geographic Area Codes was submitted to the MARC Standards Office. As a result, a series of new codes were established:

x	Earth
xa	Eastern Hemisphere
xb	Northern Hemisphere
xc	Southern Hemisphere
xd	Western Hemisphere
zd	Deep space
zju	Jupiter
zma	Mars
zme	Mercury
zmo	Moon
zne	Neptune
zo	Outer space
zpl	Pluto
zs	Solar system
zsa	Saturn
zsu	Sun
zur	Uranus
zve	Venus

Second level names will be entered as subdivisions under the name of the smallest first level geographic area in which it is fully contained. For example, the Maya forest, which spans Belize, Guatemala, and Mexico, would be established as **North America—Maya Forest** instead of simply as Maya Forest. The same geographic names may appear significantly different in their direct and indirect forms. In LCSH, North Carolina as a first level entry or as a subdivision, is spelled out, but, as a qualifier, it is abbreviated as N.C. (e.g., Chapel Hill (N.C.)) To ensure a comprehensive search, users frequently must search for multiple forms of the same name. Some examples of FAST geographic headings and their corresponding Geographic Area Codes are:

England $z Coventry [e-uk-en]
Great Lakes [nl]
Great Lakes $z Lake Erie [nl]
Italy [e-it]
Maryland $z Worcester County [n-us-md]
Ohio $z Columbus [n-us-oh]
Deep space $z Milky Way [zd]
Solar system $z Hale-Bopp comet [zs]

Type qualifiers (County, Lake, Kingdom, Princely State, etc.) will be used when the name is not a unique geographic name. For the United States, county names will be the most common means to identify a particular place name when the name is not unique within the state. For example, there are two Beaver Islands in Michigan; the larger one and better-known island is in Lake Michigan, but another Beaver Island exists in the Isle Royle National Park, located in Lake Superior. To uniquely specify the island in Lake Michigan, Beaver Island would be qualified by the county:

Michigan $z Beaver Island (Charlevoix County) [n-us-mi]

When different type of geographic entities use the same name, the name is qualified to reflect the type of entity. For example, Otsego Lake is both a town and a lake in Michigan--to distinguish between the town and the lake, a qualifier would be added to the heading for the lake, leaving the populated place unqualified.

Michigan $z Otsego Lake [n-us-mi]
Michigan $z Otsego Lake (Lake) [n-us-mi]

In some cases, an LCSH geographic headings for city sections contains more information than can be expressed in two FAST levels. In FAST, headings of this type will be expressed as three levels. For example, headings of the type **Hollywood (Los Angeles, Calif.)** and **German Village (Columbus, Ohio)** would be expressed in FAST as:

California $z Los Angeles $z Hollywood [n-us-ca]
Ohio $z Columbus $z German Village [n-us-oh]

Form Facet

The form facet includes all form subdivisions. The form headings were established by extracting all form subdivisions from LCSH topical and geographic headings. However, because many form subdivisions are currently still coded as $***x*** instead of subfield $***v*** in LCSH headings, they were algorithmically identified and re-coded as *v* prior to their extraction. O'Neill et. Al provides the details of the algorithm used to identify the form subdivisions for re-coding. Some examples of FAST form subdivisions are:

$v Translations into French
$v Rules
$v Dictionaries $x Swedish
$v Controversial literature $v Early works to 1800
$v Statistics $v Databases
$v Bibliography $v Graded lists
$v Slides
$v Directories
$v Juvenile literature
$v Scores

As with the topical and geographic facets, all form headings will be established in the authority file.

Chronological Facet

The period facet follows the practice recommended by the SAC/ALCTS Subcommittee, and a continuance of the recommendations discussed at the Airlie Conference, specifically, that chronological headings reflect the actual time period of coverage for the resource.
In FAST, all period headings will be expressed as either a single numeric date or as a date range. In cases where the date is expressed in LCSH as a century (e.g., 20th century), in FAST, the date is expressed as a range of dates—1900-1999. Similarly, periods related to pre-history eras would be expressed as dates—Jurassic would be expressed as 190000000-140000000 B.C. The only exception to this practice are for period headings that are represented in the authority file as established topical headings will be treated as topical headings, and not as periods (e.g., Twentieth century when found used as a main heading).
Since the only general restriction on periods is that when a date range is used, the second date must be greater than the first, there is no need to routinely create authority records for period headings. For example, no period authority record would be created for the period facet **$y To 1500**.
Complexities on the treatment of period facets in headings of the type *[Geographic] $x History $y [topical descriptor, date range]*. Some examples of these types of headings include: **Argentina $x History $y Peronist Revolt, 1956,** and **Maine $x History $y King William's War, 1689-1697**. In these examples, the chronological subdivision contains additional information than can be expressed in a date or date range (e.g., King William's War). As the research on faceting headings of this type continue, the objective of the FAST project remains, which is to develop a subject-heading schema based on LCSH suitable for metadata that is easy-to-use, understand, and maintain.

Names Facet

The facet for personal and corporate names is the area of most recent research. Similar to the topical main facet, FAST headings for personal and corporate names are very similar, and in most cases exact, to the established name heading in the LC authority file. Unlike the approach taken for the topical, geographic, and chronological facets, however, more restrictions were implemented when selecting headings from bibliographic records for inclusion in the FAST scheme. In part, this decision was made simply due to the difference in the number of name authority records versus the number of subject authority records. Currently, there are over 5.4 million name authority records, in contract to the approximate 270,000 subject authority records.

- Name headings found in bibliographic records must be represented in the LC names file, AND
- Name heading must be used at *least one time* as a subject heading.

Multi-faceted phrase headings

There are a small number of Library of Congress Subject Headings that contain multiple facets presented in a phrase-like structure, and all bounded within a single $a. Examples of these types of headings are:

- Geo. A. Hormel & Company Strike, Austin, Minn., 1985-1986

- ♣ War of the Mascates, Brazil, 1710-1714
- ♣ Bull Run, 2nd Battle of, Va., 1862

These types of headings are retained as topical headings in Phase I of the FAST project, but they will require more extensive manual review in future phases. Based on the cursory research that has been completed on these types of headings, the faceting could result in the following:

- ♣ Geo. A. Hormel & Company Strike, Austin, Minn., 1985-1986
  - o 110 Geo. A. Hormel & Company
  - o 150 Strikes and lockouts
  - o 151 Minnesota $z Austin
  - o 148 1985-1986

10. FAST headings in metadata records

One of the goals of the ALCTS/SAC/Subcommittee was to develop a subject heading scheme compatible with Dublin Core and other metadata schemas. The subcommittee was also specific in regards to endorsing the use of use of other Dublin Core elements (e.g., coverage) to accommodate different facets. As the MARC21 format is currently the most heavily used format by libraries in the United States, it was important that FAST be developed in a way that was compliant with both MARC21 and Dublin Core formats. The following chart shows the faceting of the data extracted from LCSH headings and how it would be expressed in Dublin Core.

Extracted from MARC21 Bibliographic tag	FAST Facet	Expressed as Dublin Core Qualifier
650, second indicator 0, $a	Topical	Subject
6xx, second indicator 0, $x	Topical	Subject
6xx, second indicator 0, $y	Topical	Subject
6xx, second indicator 0, $y	Chronological	Period
6xx, second indicator 0, $v	Form	Type
651, second indicator 0, $a	Geographic	Coverage.spatial
6xx, second indicator 0, $z	Geographic	Coverage.spatial
600, second indicator 0, $abcdq	Personal name	Creator/namePersonal or Contributor/namePersonal
610, second indicator 0, $abndc	Corporate name	Creator/nameCorporate or Contributor/namePersonal

For example, the LCSH heading:
650 0 Authority files (Information retrieval) $z Italy $z Florence $v Congresses
would be faceted into the following three FAST headings:

- ♣ Topical: Authority files (Information retrieval)
- ♣ Geographic: Italy $z Florence
- ♣ Form: Congresses

And re-expressed in Dublin Core as:

- ♣ Subject: Authority files (Information retrieval)
- ♣ Coverage.spatial Italy · Florence
- ♣ Type: Congresses

Similarly, the LCSH heading:

651 0 United States $x Civilization $x Italian influences $x History $y 20th century $v Sources would be faceted into the following four FAST headings:

- ♣ Geographic: United States
- ♣ Topical: Civilization $x Italian influences $x History
- ♣ Period: 1900-1999
- ♣ Form: Sources

And re-expressed in Dublin Core as:

- ♣ Coverage.spatial United States
- ♣ Subject: Civilization · Italian influences · History
- ♣ Period: 1900-1999
- ♣ Type: Sources

However, to express the same data in MARC21 format presented problems, as neither the MARC21 bibliographic or authority formats had defined tags to support the entry of chronological data as a main ($a) subfield. As a result, the team met with staff at the Library of Congress, and later wrote a MARBI proposal to expand the MARC21 bibliographic and authority formats. In 2002, the proposal was accepted by MARBI committee, and allows complete mapping of FAST facets to MARC21 bibliographic tags:

FAST Facet	Expressed as Dublin Core Qualifier	Expressed in MARC21 Bibliographic tag
Topical	Subject	650, second indicator 7, $a/$x, $2 fast
Chronological	Period	648, second indicator 7, $a, $2 fast
Form	Type	655, second indicator 7, $a, $2 fast
Geographic	Coverage.spatial	651, second indicator 7, $a/$z, $2 fast
Personal name	Creator/namePersonal or Contributor/namePersonal	600, second indicator 7, $abcdq, $2 fast
Corporate name	Creator/nameCorporate or Contributor/namePersonal	610, second indicator 7, $abndc, $2 fast

In authority records, the MARC21 tags for the FAST facets are:

FAST Facet	Expressed in MARC21 Authority tag
Topical	150
Chronological	148
Form	155
Geographic	151
Personal name	100
Corporate name	110

Authority records

The FAST team selected the MARC 21 Authority Format is because the format is a well-proven, sophisticated protocol specifically designed to carry controlled vocabulary elements and support a synthetically-structured database. In FAST, the synthetically structured database was expanded to include the retention of obsolete authority records to ensure compatibility within a linked structure. To minimize the number of broken links, once a heading has been established and an authority created, that heading and its authority record

will be permanently retained in the FAST authority file with its 1XX field unchangeable. FAST authority records containing headings in the 1XX field containing obsolete headings will be contain value 'o' (Obsolete) in the Leader/05 to indicate that the heading is not the preferred term.
The difference between Leader/05 'o' and Leader/05 'd' is purely one of a physical nature: Leader/05 'o' identifies authority records in which the heading is obsolete, but the authority record *physically* remains in the file to support the linked structure of the database. Leader/05 value 'd', indicates the record should be physically deleted from the file.
A second area identified by the FAST team lacking in the MARC21 Authority Format was one to facilitate systematic maintenance as headings and relationships between headings occur. Below are the four basic types of identifying heading changes and supporting updating that occur in LCSH, and how these would be handled within FAST using current and newly defined MARC elements. All FAST records will be linked back to the LC authority record from which it was derived using 7xx linking fields.
The final component of the MARBI proposal defined a new $w/1 subfield value for the 700-785 fields to support the ability for automatic replacement of headings. Three codes were defined that could be used by systems to automatically update bibliographic records with the replacement heading(s), specifically:

- **a** **Heading replacement does not require review**
  Identifies headings that are always used to replace the obsolete heading
- **b** **Heading replacement requires review**
  Identifies headings that may be used as replacement, but requires subject analysis to determine its appropriateness
- **n** **Not applicable**
  The heading is not being replaced; if code n is applicable, $w/1 need not be used

1. ***'One-to-one' changes***, for example, the heading **Trade-unions** is replaced by the heading **Labor unions**. The heading for Trade-unions now appears as a 450 heading in the authority record for **Labor unions**.
   - The incoming authority record distributed by the Library of Congress containing the 150 heading **Labor unions** would contain the value 'c' (Corrected or revised) in the Leader/05 position.

     LC Authority record
     Leader /05 'c'
     001 2032352
     010 sh 85136516
     040 DLC $c DLC $d DLC
     150 Labor unions
     450 Trade-unions

   - In FAST, a new authority record for **Labor unions** would be created, with the value 'n' (New) in the Leader/05 position. A 750 field would be added to the authority record.

     FAST Authority record
     Leader /05 'n'
     001 [OCLC assigned number]
     005 [OCLC assigned date/time stamp]
     040 OCoLC $b eng $c OCoLC $f fast

150 Labor unions
450 Trade-unions
750 0 Labor unions $0(DLC) sh 85136516

- In FAST, the authority record for **Trade-unions** would be retained as a separate record, but would be updated to contain value 'o' in the Leader/05. The 750 linking field in the record showing a relationship to the FAST authority record for Labor unions would remain, with *$w a* added to the 750 linking field indicate that the heading indicating that any occurrence the FAST heading **Trade-unions** found in bibliographic records should be replaced by the heading **Labor unions**.

FAST Authority record
Leader /05 'o'
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
150 Trade-unions
750 0 Labor unions $0(DLC) sh 85136516
750 7 Labor unions $7(fast) [OCLC assigned number] $w a

2. ***'And/Or'*** changes, for example, the heading **Alms and almsgiving** is replaced by two or more different headings—in this case, the replacement headings are **Charity** and **Charities**. In this instance, one or the other, and maybe both, of the identified headings would be the appropriate replacement for the obsolete heading.

- The incoming authority record distributed by the Library of Congress containing the 150 heading **Alms and almsgiving** would contain the value 'd' (Deleted) in the Leader/05 position. Two new authority records, with the value 'n' in the Leader/05 position would also be distributed for the headings **Charity** and **Charities**, respectively.

LC Authority record
Leader /05 'd'
001 [OCLC assigned number]
010 [LC control number]
040 DLC $c DLC $d DLC
150 Alms and almsgiving

LC Authority record
Leader /05 'n'
001 2137277
010 sh 85022672
040 DLC $c DLC $d DLC
150 Charity
450 Alms and almsgiving

LC Authority record
Leader /05 'n'
001 2137212
010 sh 85022665
040 DLC $c DLC $d DLC
150 Charities

450 Alms and almsgiving

- Using value ‘o’ in the Leader/05 position of the authority record containing **Alms and almsgiving** and value ‘n’ (New) in the Leader/05 position of the two new authority records created for **Charity** and **Charities**. The presence of the same text appearing in the 450 field in multiple records would generate *$w b* in the 750 FAST linking fields of the obsolete record, indicating that the one or both headings may be used as a replacement.

FAST Authority record
Leader /05 ‘o’
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
150 Alms and almsgiving
750 0 Alms and almsgiving $0(DLC) sh 85136516
750 7 Charity $7(fast)[OCLC assigned number] $w b
750 7 Charities $7(fast)[OCLC assigned number] $w b

FAST Authority record
Leader /05 ‘n’
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
150 Charity
450 Alms and almsgiving
750 0 Charity $0(DLC) sh 85022672

FAST Authority record
Leader /05 ‘n’
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
150 Charities
450 Alms and almsgiving
750 0 Charities $0(DLC) sh 85022665

3. ***‘Or’ changes***, for example, the heading **Hotels, taverns, etc.** is replaced by two or more different headings—in this case, the replacement headings are **Bars (Drinking establishments)**, and/or **Hotels**, and/or **Taverns (Inns)**.

- Similar with the *and/or* changes, the incoming authority record distributed by the Library of Congress containing the 150 heading **Hotels, taverns, etc** would contain the value ‘d’ in the Leader/05 position. Three new authority records, with the value ‘n’ in the Leader/05 position would also be distributed for the headings **Bars (Drinking establishments)**, and/or **Hotels**, and/or **Taverns (Inns)**, respectively.
- Using value ‘o’ in the Leader/05 position of the authority record containing **Hotels, taverns, etc.** and value ‘n’ in the Leader/05 position of the three new authority records created for **Bars (Drinking establishments)**, **Hotels**, and **Taverns (Inns)** respectively. The presence of the same text appearing in the 450 field in multiple records would generate *$w b* in the 750 FAST linking field of the obsolete record, indicating that the heading

may be used as a replacement, but requires subject analysis to determine its appropriateness.

4. ***'And'*** changes such as occur with the faceting of a particular type of FAST heading that occurs when a single LCSH heading contains multiple facets within a single subfield (e.g., $a).

LC Authority record
001 2488003
010 sh 89000691
040 DLC $c DLC $d DLC
150 Geo. A. Hormel & Company Strike, Austin, Minn., 1985-1986

♣ Value 'o' in the Leader/05 authority record for Geo. A. Hormel & Company Strike, Austin, Minn., 1985-1986. The 7xx FAST linking fields in the record would remain, with *$w a* added to indicate that the heading for **Geo. A. Hormel & Company Strike, Austin, Minn., 1985-1986** is replaced by multiple FAST headings.

FAST Authority record
Leader /05 'o'
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
150 Geo. A. Hormel & Company Strike, Austin, Minn., 1985-1986
710 7 Geo. A. Hormel & Company $7(fast)[OCLC assigned number] $w a
750 7 Strikes and lockouts $7(fast)[OCLC assigned number] $w a
751 7 Minnesota $z Austin $7(fast)[OCLC assigned number] $w a
748 7 1985-1986$7(fast)[OCLC assigned number] $w a
750 0 Geo. A. Hormel & Company Strike, Austin, Minn., 1985-1986 *$0(DLC) sh 89000691$w n1*

♣ Value 'n' in the Leader/05 position for the FAST authority records.

FAST Authority record
Leader /05 'n'
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
110 Geo. A. Hormel & Company
710 0 Geo. A. Hormel & Company *$0(DLC) n 84082628*

FAST Authority record
Leader /05 'n'
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
150 Strikes and lockouts
750 0 Strikes and lockouts $0(DLC) sh 85128731

FAST Authority record
Leader /05 'n'
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]

040 OCoLC $b eng $c OCoLC $f fast
043 n-us-mn
151 Minnesota $z Austin
751 0 Austin (Minn.) $0(DLC) n 79105963

Other decisions regarding what information from the Library of Congress that should be part of FAST authority records are still under review. Most 4xx fields will be retained, some 5xx fields will be retained, and some select 6xx note fields. In general, 4xx and 5xx fields are retained if the heading does not cross facets.

Example 1:

LC Authority record
001 4478097
010 sh 97006510
040 DLC $c DLC $d DLC
005 20010306142236.0
151 Maya Forest
451 Selva Maya
550 Rain forests $z Belize $w g
550 Rain forests $z Guatemala $w g
550 Rain forests $z Mexico $w g

FAST Authority record
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
043 n
151 North America $z Maya Forest
451 Selva Maya
751 0 Maya Forest$0(DLC) sh 97006510

Example 2: Topical

LC Authority record
001 2000367
010 sh 85000004
040 DLC $c DLC $d DLC
005 19960530131610.0
150 20th Century Limited (Express train)
450 Twentieth Century Limited (Express train)
550 Express trains $z United States $w g
670 Work cat.: Rose, A. 20th Century Limited, 1984.

FAST Authority record
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
150 20th Century Limited (Express train)
450 Twentieth Century Limited (Express train)
750 0 20th Century Limited (Express train) $0(DLC) sh 85000004

Example 3: Form

LC Authority record
010 sh 99001298
040 DLC $b eng $c DLC $d DLC
005 20010202130538.0

073 H 1095 $z lcsh
185 $v Bibliography of bibliographies
480 $x Bibliography $v Bibliography $w nne
585 $v Bibliography $w g
680 $i Use as a form subdivision under subjects for works consisting of lists of bibliographies on those subjects.
681 $i Reference under the heading $a Bibliography of bibliographies

FAST Authority record
001 [OCLC assigned number]
005 [OCLC assigned date/time stamp]
040 OCoLC $b eng $c OCoLC $f fast
155 Bibliography of bibliographies
555 Bibliography
785 0 $v Bibliography of bibliographies $0(DLC) sh 99001298

Conclusions

Although much work remains before the FAST authorities files are complete and ready for use, the project has demonstrated that it is viable to derive a new subject schema based on the terminology of the Library of Congress Subject Headings but with a simpler syntax and application rules. Upon completion, the FAST authority records will be extensively tested and evaluated. After the evaluation, we will know if we have achieved our goal of creating a new subject schema for metadata that retains the rich vocabulary of LCSH while being easy to maintain, apply, and use.

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