Tip Sheet 15. Use of Controlled Vocabularies as Keywords

The Library of Congress Subject Headings (LCSH) are terms selected and applied by professional *cataloguers* to describe the most specific contents of publications (books and the titles of serials) for archival and retrieval purposes. The National Library of Medicine's Medical Subject Headings (MeSH) are terms used by professional *indexers* to describe the most specific contents of scientific journals related to human health, safety, and medicine. Unlike LCSH headings that catalog whole works, however, MeSH tags are applied to each article in each journal.

The purpose of using controlled vocabulary for subject headings is to allow readers to find the publication while not knowing the title or the authors. In the Library of Congress system, a list of authorities, called the "scope notes," for subject headings comprise many components that include a concise definition of the term used and a specification of how to apply the subject heading. The LCSH then is assigned the call numbers so that items listed in the catalog can be found on the shelves of a library; the system allows one to systematically browse the physical library by call number just as one can browse the electronic library by subject heading or keyword. You can learn more about the LCSH Authorities list at http://authorities.loc.gov/help/subj-auth.htm .

 Authors can take advantage of these controlled vocabulary words if they use them as tags to link the disciplinary headings with the free-text keywords in their journal articles. Publishers typically require authors to submit keywords for publication with the article. A savvy author thereby connects the book and serial literature with their journal article by use of the controlled vocabulary headings.

You can create a list of these standardized subject headings for your disciplinary specialty to use for two purposes: first, they can be provided to publishers of your journal article as part of the submission process, and they can be used as controlled search terms when you input your bibliographic references into a bibliographic data base program like Zotero or End-note. (Note: By including a subject heading like "all" in your personal list of terms and applying it to each bibliographic record, you can dump the entire bibliographic data base.)

I used this list of steps to begin creating a standardized list of LCSH for the field of nanocrystals:

- Go to http://authorities.loc.gov/cgi-bin/Pwebrecon.cgi?DB=local&PAGE=First
- Enter the word nanochemistry (the capitalization is not needed) in the Authorities Heading Search tab search box.
- Highlight the Subject Authority Headings as the Search Type; click search.
  —The search yielded one distinct subject heading (with publication type subheadings) that began with nanochemistry.
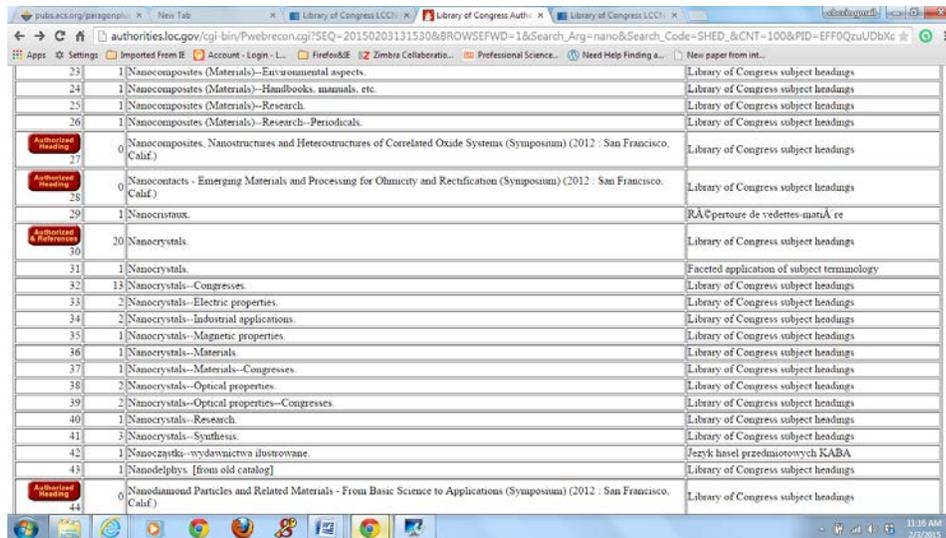
- If you scroll down further in the list, then to the next page, more detailed terms appear—e.g., nanocomposites then nanocomposites (Materials), and nanocrystals.

- Stop at nanocrystals to notice a LCSH convention: two hyphens and additional terms. These are controlled vocabulary subheadings and are the way LCSH can become very specific. Click on the icon to the left of the term (a red button); you will bring up a screen about the term; note the narrower terms and broader terms.
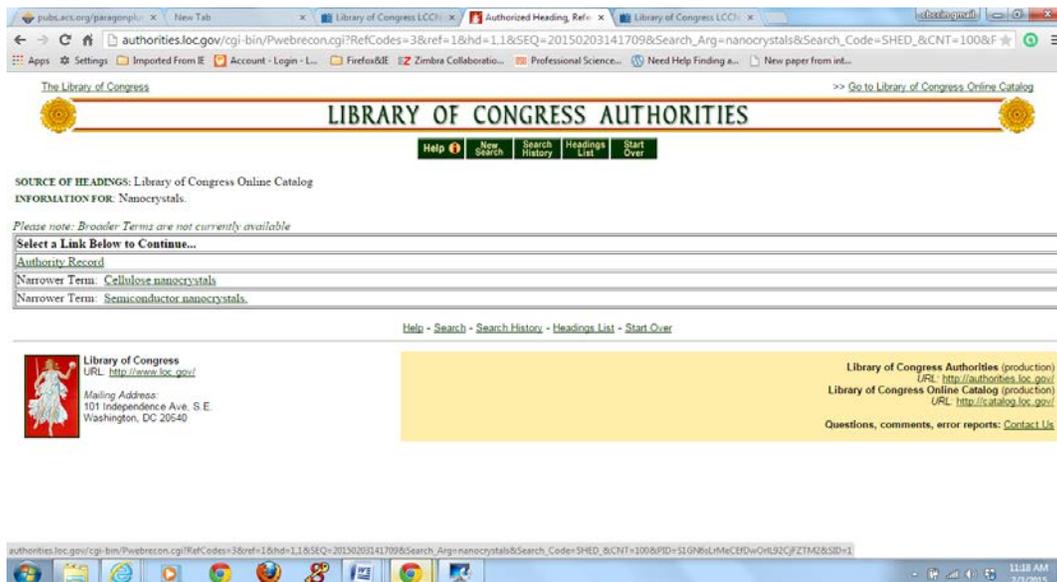
- Click on underlined terms to go deeper or click the link for the authority record, then nanocrystals, (contains the scope notes) to see the origins of the term. Use the Labelled Display for easier interpretation by lay users; the MARC record is the librarian's tool.
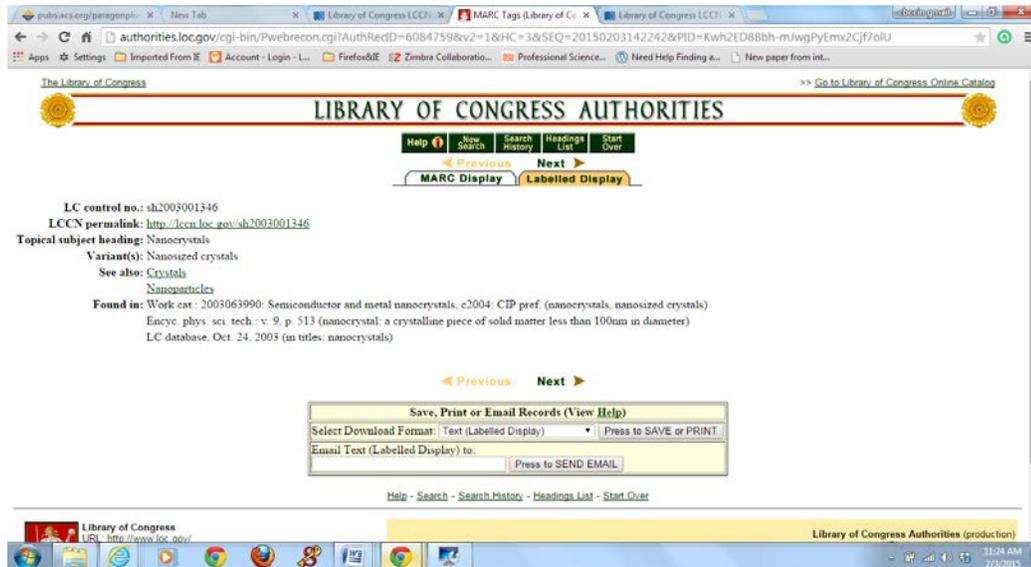
The variant terms and related ("see also") terms are listed here as well as the definition of scope, i.e., what topics (like the term's definitions) are in works that can be found with this subject heading. If you click on the LCCN permalink, a summary page appears.

By checking the authority records for these variants and related terms, you can intelligently construct a list of keywords to link your research topics by employing consistent, standardized subject headings. If only a few terms are checked and added to your list for each publication, in time the list can be expanded and refined. If you keep your personal list of keywords handy, it becomes a tool for efficient archiving and retrieval of your personal bibliographic collection, a way to quickly catalog the articles and books you read, and a consistent method to link your work with related research and writing in your discipline.

Note that you also have access to the call number information to begin to map where in the library documents on nanocrystals are located. In the upper right corner of the last screenshot is a link to the Library of Congress catalog. Search on the LCSH term nanocrystals; the results will show the call number for the term in the record for the library's holdings, which you can use to physically browse the stacks in a library on the LC system.

Now that's a keyword!