"Chaining" Sources in Social Science Research

Chaim Kaufmann
February 1, 2007

One major problem in social science research is that subject indexes rarely get you everything you need. This is partly because initially you won't know the literature on your question well enough to know how the relevant subject indexes are organized, but also partly because you can't learn all of them because there are so many different ones. For monographs held by libraries, you will likely encounter only two systems – Library of Congress (used by Harvard, for example) and Dewey Decimal (used by Lehigh) – but the many different databases of journal articles (Academic Index ASAP, Web of Science (SSCI), etc,), news items (LEXIS/NEXIS, Factiva, etc.), and government documents – use many different systems. Further, the process of subject indexing is error-prone. Often at least some of the items that you seek may be hard to find because they were indexed incorrectly.

Even after you have mastered all the relevant systems it often seems to turn out that some of them just don't have a subject entry that really corresponds to the exact matter you are interested in.   The result is that your subject searches may often get either hundreds or thousands of hits – or else none.

Even if the number of items that are genuinely critical to your question is as few as, say, six, you can spend almost infinite time on subject searches and still find later that you missed a critical item.

The same problem applies to keyword searching, whether in the same catalogues and databases or in broader Internet search engines such as Google.

An effective solution to this problem is what I call "chaining." Once you have found – by whatever method, including plain luck – even one item that you judge not just useful but likely to be central to the literature on your question, you can use it to find most of the rest of the sources that you are likely to need for your project.

In my experience this method is almost always more useful than subject or keyword searches – especially, it is much less likely to miss something genuinely important. I generally use searches in subject indexes or Internet search engines only as an initial "shotgun" effort to try to locate items that seem worthwhile as starting points for chaining.

Most of the following is common sense, but no less useful for that. There are five main types of chaining:

1) Subject chaining – If you are not sure what subject headings may prove useful, most catalogues and databases will allow you to browse through all of their subject headings. For instance, if you are interested in the Salvadoran civil war of the 1980s, simply searching "El Salvador" will probably yield far too many

items. But if you browse subject headings that begin with "El Salvador" you may discover a heading called "El Salvador—Civil War" (possible with dates included).

Then, once you find even one item that appears especially useful to your project, see what **other** subject headings that item is catalogued under. Pursue headings that look particularly likely. For example, some of the most useful-looking items found under "El Salvador—Civil War" may also list additional subject headings, perhaps "El Salvador—Politics and Government" (perhaps with dates) or "El Salvador—Foreign Relations—United States." You would then search those headings also.

Subject chaining is of course limited; its only use is in finding subject headings that you would not have thought of or did not realize existed in this database, and the results may not be transferable from one database to another.

For this reason, check whether an item that you judge useful appears in additional databases; this often occurs for journal articles and news items. If it does, check its subject headings in the 2nd database; if any new subject headings are shown, pursue them in that database.

2) Keyword chaining – Follow the same principles as for subjects. Keyword searches, however, have an even worse habit than do subject searches of turning up too many, mostly un-useful, items, so don't be disappointed if this does not get you far.

Subject searches are usually more effective **provided** that you can identify all the appropriate headings under which to search, which is what subject chaining does.

3. Author chaining – When you find an especially useful item, check for other publications by the same author. Especially, check whether the author of an article has a book on the same subject, or whether the author of a book has also written articles (perhaps more recent?) that include important material not in the book).

(If your initial item is a monograph, an author chain to an article by the same person will be essential to allow you to use the most powerful chaining method, #5 below).

4) Citation chaining (a.k.a. footnote chaining) – As you read, pursue citations that look useful. Since you will have not only the author and title of the cited item but also the context in which the citation appears (and often additional comments in the footnote itself), you will be in an excellent position judge whether the cited item really is likely to prove useful. For this reason, this type of chaining yields a much higher "hit" rate of items that actually do turn out to be worthwhile than does any of the other chaining methods.

The major limitation of this method is that citations can be pursued only **backward** in time. For this reason it can be useful to read the most recent major works on a question first, even if you are already aware of older ones of at least equal importance.

5) Chaining citations forward (SSCI chaining) – Actually, you **can** chain citations forward using the Social Sciences Citation Index (SSCI), part of the Web of Science (available on Lehigh's database page). Among other things, the SSCI tracks what **later** articles cite a particular **earlier** article. This ability makes this chaining method potentially the most useful of all.

To chain citations forward, you must begin with a journal article (not a book or monograph) that you think is likely central to the literature on your question – it bears directly on the core issues and is, in your judgment, of excellent quality. In other words, an item likely to be remembered and cited by anyone writing on the same subject later. Call this article the "seed" of your chain.

(Naturally, it is desirable that the seed from which you begin your chain should be relatively old; if it is less than a year or two old few if any authors who might cite it will have had time yet to write their manuscripts and get them published.)

Then do a "cited reference search" in SSCI to find later articles that cite your seed article. If you find few or none, you probably did not choose a good starting point; try again. If you find far too many – this is likely, because articles that come to be seen as especially important are often cited far outside their field – don't give up. Scan through the articles' titles to pick out the ones that seem most likely to focus on the issues you care about.   (Once you know a little more about your subject, the name of the author or the journal in which the later article appears may also help you guess how useful it may prove to be.)

This method has one main limitation: it can chain only from articles to other articles, not books to articles or articles to books. So if, say, an SSCI search on a 1968 article finds another very helpful article by another author published in 2004, you will want to check for other articles or books by the author of the 2004 article.

Similarly, if you have a very useful book, you may want to check for articles by that author on more or less the same subject just so that you can find one that might make a good seed form which to start an SSCI chain.

(Actually, the articles-only limitation on SSCI is no longer entirely true; in many cases you can now do a "cited reference" search on a book to find journal articles that have cited that book. The "Help" function in the Web of Science explains how.)

You can also try the same technique in Google Scholar. Simply search the author or author and title of your "seed." The results will show you how many times the item(s) were cited and will also provide links to many or all of the later works that cite your seed item. Google Scholar is much more hit-or-miss than SSCI, but it does include many books as well as articles, and so partly bypasses the mainly article-only limitation of SSCI.

Finally, you can and should mix and match all of these chaining methods. For any item found by any of these methods, besides the possibility that it will

prove directly helpful, there is also the potential that it could serve as the starting point for further chaining of the same type or of one of the other types.

Especially, look for opportunities to start SSCI chains. If the 2004 article author in the example above footnotes a book by yet a third author, and that turns out to be exceptionally helpful, then look for articles by the third author with a view to locating one that might make a good seed for a new chain.

The next page contains a diagram that illustrates how all these methods can be used to reinforce each other.   **Yellow** arrows search backwards in time; **red** ones search forward in time; while **green** ones can improve the efficiency of searches in the same database where you found the original "seed" item.

Finally, when all else fails – or whenever you need help using indexes and electronic resources – ask a reference librarian.

'Chaining' Sources

THEN

Footnotes

Footnotes

same
subjects/
keywords

Monograph (book,
report, etc.) by
author A

Journal article
by author A

same
subjects/
keywords

TIME

SSCI
citations

Monograph by
author B

Journal article
by author B

NOW

5