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# Librarian's Guide to Online Searching

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# 10

## Choosing the Right Resource for the Question

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By this point in this book, or in your course if the book is being used as your textbook, you may be feeling somewhat overwhelmed: there are so many databases, and there's the whole Internet. How are you supposed to know what to use when? Specifically, you might wonder:

1. Should you always try to use a database first?
2. Is it “wrong” to use the Web?
3. Are there guidelines for when you should use a database and when you should use the Web?
4. Where do you start?

First and foremost: don't panic. Everybody feels this way at some point in his or her library school career, and frequently during the training on their first (and second, and third . . . ) job as well. While there are no hard and fast rules for “what to use when” (like so many things, with time and experience you'll develop a style that is effective for you), there is an answer to the first two specific questions. Question 1: Should you always try a database first? Not at all, you should start with whatever seems most appropriate for the question and where you feel most comfortable starting, given the resources you have available. In answer to Question 2: It is never “wrong” to use the Web, as long as you also use database resources if the question suggests they might be helpful (and you have databases available to you).

The rest of this chapter is meant to help answer Questions 3 and 4. We'll address them in reverse order so as to begin at the beginning, and because the question, “Where do I start?” has a simple and direct answer.

It's the same answer that applies to anything in reference service: start with a good reference interview.

## Start with the Reference Interview

The reference interview, whether it is in depth or only a two- or three-line dialogue, is the key to everything that happens next. That is how you find out what the patron wants, which should then suggest to you what resource(s) would meet the need. The reference interview should reveal factors such as:

- What is the subject area?
- What is the person looking for? For example, a specific factoid, a few good articles, an overview, or some statistics?
- Does he or she want current or historical information?
- How much material is needed: a great deal, or again, a "few good articles"?
- Does the person require "research" level material (also known as scholarly or peer-reviewed), or popular material?

These points are discussed in the reference interview section of Chapter 9. Your reference interview also should provide some keywords or phrases with which to start your search. You now have a body of information to work with (context, guidelines, intent, and subject), and can make an initial decision as to whether it sounds like a database question or a Web question. Note that I said "initial decision"—you can always change your mind and take a new approach as you work on the request; you don't have to get it right the first time.<sup>1</sup>

Now let's tackle the harder issue—guidelines for using databases or using Web search engines. What should you be looking for in the information that you gather during the reference interview to help address that issue?

## Questions for Databases

When trying to decide when to use databases and when to use a Web search engine, remember that people are using the Web to answer many questions on their own, and by the time they approach a librarian, it's likely that more sophisticated techniques are called for. That said, in this section you'll find the hallmarks of questions that indicate *to me* that a database might be the answer, and questions for which a Web search might be a better approach. Never get the impression that any of this is carved in stone. As you gain experience, you will undoubtedly come to identify further or different indicators based on the clientele you are serving that will whisper to you: "database" or "Web." You will find yourself making good choices most of the time, instinctively.

## Why and When to Try a Database

Why choose a database over a Web search engine? The reasons are basic: authority and credibility. Databases can contain material with errors, but in general, there is a presumption that the material has been vetted

somewhere in the process, and part of what you are paying the database vendor for is taking some responsibility for the quality of the material. Nancy Bloggs, writing Web pages in her bedroom, doesn't necessarily assume any responsibility at all. You can be more confident providing patrons with information from a commercial database than the free Web in many cases. Even with information such as a formula from a *CRC Handbook* or a dictionary definition, which can be readily available on the Web, if this material is being provided to *someone else*, it is better if it can be printed out from a database and handed over. No one is left wondering, "Who wrote this? Can I trust it to be right?" in situations in which the patron really wants to be sure of getting credible information. The Web is a useful tool for starting searches, but it is not generally the provider of choice for content to hand over formally to the patron as a final product.

Inevitably in the following descriptions you will find that Web searching is mentioned as well. It really is impossible to draw hard and fast lines between the two types of resources, because so often they do complement each other well, but I have tried to keep the discussions focused as much as possible on databases.

### Requests Involving Articles

If your reference interview has shown that *articles* are involved in any way, it is usually a strong indicator to try a database. Articles represent content that has been formally published, usually in hard copy, and then distributed and made available for a fee. The publishers of the magazines, journals, and newspapers the articles appeared in are (usually) not giving them away free on the Internet. Yes, it's true that on the Web you can find papers that authors have posted on their Web sites or archived in their organization's "institutional repository."<sup>2</sup> If you're after a known item, the Web might work, but it's not as organized, efficient, and comprehensive as a good commercial database. There is just no comparison (yet... although Google Scholar is getting there).

For example, in an academic situation involving a student writing a paper, in almost every case your best choice is an article or encyclopedia database. The ability to search by subjects, to use various limits, and to know that the material you'll retrieve has all made an appearance in the commercial press all firmly call for such a database. The full text or links to full text in so many commercial databases is another obvious reason to go to a database.

Another way articles can be involved is as citations. In any setting, if someone were trying to track down a citation or flesh out an incomplete citation, you should try appropriate databases first. (If it seems to be a history article, try a history database.) If you don't find what you need there, however, turn to the Web (see notes in the Questions for the Web section, below). If the patron wants to see who has *cited* an article recently, this is clearly a database question (and which database is fairly clear as well), although again, Google Scholar has links for "Cited by <number>." But how and where is Google getting that information? How do you know whether it's definitive? If the *Web of Science* is available to you, my advice is to try that first, every time.

Of course, articles come from journals. Although patrons seldom ask, "where is the *Journal of XYZ* indexed?" this often becomes an implied question for the librarian in the course of answering the question they did ask. Usually the most efficient course of action is to check the *UlrichsWeb* database to see where the journal is indexed. (Of course, you can also simply

go to a likely database and use its "publication browse" feature, to see if the requested journal is listed.)

### *Requests for an "Overview Article"*

Patrons often want an article that provides an *overview* of some topic. There are a couple of problems with such a request. One is, you hear the word *article*, and you do think database, which is right. The problem is, it is not that easy to find general, overview-type articles in the periodical literature, unless the author is writing a "review of the literature" or a "tutorial" on the topic,<sup>3</sup> or the topic falls within a discipline that publishes special-purpose "survey" journals, such as *Computer Surveys*. In general, articles tend to focus on a particular, finite topic rather than providing a broad introduction. A better source for an introductory or overview treatment of a topic is often an encyclopedia entry (or a chapter in a prominent textbook for that field). There are thousands of specific-topic encyclopedias available, and more and more of them are being offered in online versions. Such a commercial encyclopedia database could indeed provide an authoritative, trustworthy overview.<sup>4</sup>

### **Book Questions**

With the advent of mega online book vendors such as Amazon.com, Barnes & Noble (at <http://www.books.com>), or Powells.com (which covers the gamut of new, used, and out of print), and the availability of WorldCat on the web at WorldCat.org, the line between whether to use a subscription database or a Web resource for "book" questions has grown much more indistinct. Obviously if the patron wants to know if your library owns a particular book, you'll go to your library's OPAC. After that, it may depend on what resources you have available. If you have access to WorldCat via FirstSearch (and enjoy all the options that interface offers), and *Books in Print*, you might try those databases first for book-related questions (e. g., verifying or completing book citations, finding books on a topic, identifying a particular title that might be old or unusual). Because the subscription databases are not trying to *sell* the books, there is less screen "noise" to ignore, and thus they can be more efficient. You cannot beat the comprehensiveness of WorldCat, which helps to avoid the possibility of having to look at several online book and out-of-print vendor Web sites. And if it's quicker and easier to type "worldcat.org" into your browser than to click through a couple of library web pages to find the link to the subscription version, by all means use the Web version. On the other hand, if the patron is a student who wants a textbook (and is surprised that you don't have all the textbooks on Reserve), head off to Amazon.com immediately, to show him the deals on used copies.

### **Business Questions**

Just by the nature of the beast, if it's a business question, it is usually safe to assume that the answer is worth money and thus is less likely to be freely available on the Internet. Business questions frequently involve articles, which we have already discussed as a database indicator. Another typical business query is the request for lists of companies in a certain line of business or in a specific geographical area. Although there are free telephone directories and other similar resources on the Web, the best

directories for companies are commercial databases, such as the *Million Dollar Database*, or *Business and Company Resource Center*. Business documents such as market research reports or analyst's reports almost without exception come from subscription or other fee-based resources. A major exception to this general rule of "using databases for business questions" is in the case of certain business numbers, which we encountered in Chapter 8. Stock quotes and the financial reports (e.g., Annual Reports) of current public companies can usually be found on the Web. Another exception has to do with research in the murky realm of "competitive intelligence," in which almost anything goes: almost any information could be valuable. Thus, information from blogs, wikis, newspaper websites (often providing content not available in their printed versions), etc., is becoming an important—although often frustrating—part of business research (Ojala, 2008).

### Law Questions

In this highly specialized area of reference, official legal databases are definitely your first choice. Although it is possible to find the text of some states' statutes (e.g., Texas Statutes) or laws (often referred to as "code," as in U.S. Code or N.Y. Code) online, it probably is easier to find the information needed using a commercial legal database. Especially in this topic area, the authority of a commercial, subject specific database is very important. (And the assistance of a skilled law librarian is even more important.)

### Medical Questions

Things become somewhat fuzzier when it comes to helping patrons with medical questions. Because, as with law, we are again working in a very serious and specialized topical area, you should start with databases if possible, to take advantage of their authority and credibility. If you are working with medical professionals or medical students, obviously you'll use MEDLINE or PubMed. There is also a database called CINAHL specifically aimed at nursing professionals. For the lay public, there is a very nice Gale database called *Health Reference Center*. However, there is also an immense amount of medical information available on the Web that people are more than happy to tap into on their own, usually without recognizing the risks involved: the need to be very aware of the credibility of the source, the date of the information, etc. We'll revisit this issue in the Questions for the Web section.

### Quick Recap

Questions for which you will want to try to use databases are those hallmarked by an underlying need for authority and credibility. Requests that mention a need for articles, either for research purposes such as writing a paper or tracking down a specific citation, are usually best answered by appropriate databases. Requests expressed as a need for an "overview article" are often better served by material from an encyclopedia entry. Questions about books are sometimes answered equally well by subscription databases and free Web sites, such as Amazon.com or WorldCat.org. Business-related questions usually involve material that has been expensive to collect, and such questions are usually better addressed with commercial databases. Preference should also be given to commercial

databases for law and medical questions, due to the specialized and serious nature of the topic areas. The particular need in those situations for authority and credibility demands that only professionally produced and professionally acknowledged resources be used.

### Choosing a Database

If you're faced with a question that seems like a database question, you could be in one of three situations: having many databases at your disposal (the assumption so far in this book), a few databases, or none at all. In this section we'll look at the issue of making a choice in each of those three scenarios.

#### Scenario 1: An Embarrassment of Riches

If you're at an institution that subscribes to literally hundreds of databases, the natural question is: how do you decide which one to use? Determining which database to start with involves many of the factors you use to *evaluate* a database (a topic addressed again in Chapter 11):

- What subjects does the database cover? (If the topic is well defined, definitely in one subject area, a subject-specific database such as *Art Index* or *EconLit* could be the right resource. If the topic seems fuzzy, or interdisciplinary, a multi-subject database such as ProQuest's *Research Library* or EBSCO's *Academic Search* or *MasterFILE* may be a better answer.)
- What types of material are included? Magazines? Scholarly journals? Books or book chapters? "Working Papers"? Other materials? Or do you need a numeric or directory database?
- What *level* of material? (Is it "popular" level or research level?)
- What is the date coverage of the database? Does it cover the right time period? If you are trying to find or verify a really recent article, you'll want to check how frequently material is added to the database you're thinking of using, and how up to date it is.
- If the database does not provide full text, are the sources mostly available in your library (or in another database)?
- How "searchable" is the database: Does it offer controlled vocabulary to focus your search, or does it offer keyword searching of all fields, if you need to find a needle in the haystack? Which fields are searchable? If you only have one piece of information, but that field isn't searchable in the database you've picked out, you have a problem. If you're looking for a particular *kind* of article, like a book review, you want a database that lets you limit or search by article type. Is it possible to limit by scholarly or peer-reviewed articles, if that's what you need?

You also don't have to pick just one database. You could identify two or three candidates and test your most specific search term in each one to see which shows the most hits. Especially if you're venturing into a new subject area, try your most specific term in the database that you've chosen, and see how many hits there are. If the database has a subject list or thesaurus,

look up your term to see if it is listed, and how many records are associated with it.

This list of factors to consider probably sounds like it would take far too much time, while the patron is sitting there expecting immediate action. As you gain experience, however, you will find that you can do this analysis of “database or the Web?” quite quickly, however. If you’re at a major university or large public library that subscribes to a large number of databases, it’s very likely that library staff have already created Web pages that organize the databases into groups by subject, and often by whether or not they are full-text. Start by looking at databases by subject, or at guides developed by librarians that might suggest the best databases for different subject areas. Quickly scan the descriptions of the databases’ *coverage*, *currency*, and *material* types. Go into the database(s) that seem most appropriate and test them for subject coverage, availability of appropriate fields and limits as mentioned in the bulleted list above. This all comes across as “action on the question” to the patron, and results will probably follow pretty quickly.

Of course, you have the free Web as well. Even when you have hundreds of subscription databases at your fingertips, it’s a perfectly acceptable strategy to run a quick Web search, just to see if the term is “out there,” and what context it is used in, especially for an unfamiliar topic area (think of this as a “reality check”). As mentioned before, the two can complement each other well.

### **Scenario 2: A Few Good Databases**

This scenario could apply to a school library with a handful of databases available, or to a corporate, law, or other special library as well. In each case, the limited number of databases was chosen for its appropriateness to your clientele and your mission, so in a way, you could consider this an advantage: some preselection has taken place, and these should already be the “most likely” databases for the questions that you expect to encounter. Given this, you can still look at your databases in light of the factors discussed above. Which one(s) might be most appropriate, given their *coverage*, *currency*, *searchability*, and *ability* to identify research? You can jump into one or more and test your search terms. Frankly, in many ways you have the advantage over those libraries that have hundreds of databases, because you can be thoroughly familiar with each of your resources, and have a much better idea which one is likely to be most useful for any given question, without any testing or analysis at all. And, of course, you have the free Web as well.

### **Scenario 3: No Subscription Databases at All**

It would certainly be sad and frustrating, after learning about all these nifty fee-based resources, to find yourself in a situation in which you don’t have any subscription databases available. No point in grouching and hand wringing, however: let’s assume that at least you have an Internet connection. Two U.S. government agencies provide free versions of their database content on the Web: PubMed from the National Library of Medicine, and ERIC from the Department of Education. You also have the riches of OCLC’s WorldCat now at your fingertips, at WorldCat.org. Google Scholar provides a way to search for peer-reviewed articles from scholarly journals; the effectiveness of this search engine varies according to the



subject area of your search (definitely try it for an engineering literature search<sup>5</sup>, for example), and the time period. You should be able to trust the authority of Web sites from the government (.gov), such as MedlinePlus.gov, or sites run by reputable organizations (.org), like the American Cancer Society (<http://www.cancer.org>).

Actually, you may find there are some (subscription) databases provided at no cost to you through your local public library system. This is something to have explored ahead of time, so you'll have some idea of what is there, and what you need to do to gain access (e.g., a current library card with a barcode number).

Each of these scenarios has included the Web, the last one relying solely on it. This seems the natural time to consider what questions are best answered by the Web.

## Questions for the Web

One is tempted to say “what *isn't* a question for the Web?” because it seems that no matter what keywords you search for, they'll have appeared in some Web page, somewhere. There are certainly topics, however, that are much more likely, or only, answerable by a Web search.

### Personal Uses of the Web

We use the Web endlessly for personal research: finding books at Amazon.com, getting weather reports, checking crossing delay times for the bridges to Canada, making travel plans, checking movie times, buying an answering machine (or buying anything), or trying to find an answer to a software question. It's quick, it's easy, and it's not the sort of information you'll find in databases. (For a review from *Consumer Reports* about something that we're thinking of buying, however, we wind up back at a database, because that's an article.) Because it's only for our personal information, we take the responsibility for deciding how authoritative the information is and whether that's important.

### Professional Uses of the Web

#### Popular Culture, Local Information, and People

At the reference desk, questions about popular culture (“Who is the highest paid player in the NFL?”), or with daily life or local information (“Where are all the HSBC bank branches in (city X)?”, “Can I get a list of all the choral societies in (city Y)?”), or one of my favorites: identifying the source of a song, poem, or quotation from a small fragment, are definitely Web search material. For anything to do with films, a part of popular culture, the Internet Movie Database (IMDb) is my resource of choice. The Web is also amazing (a little frighteningly so) for finding people. It doesn't always work, but we all know some pretty incredible stories about locating people by searching for them on the Web.

#### Citation Disambiguation

The Web is useful for tracking down citations. If you're not finding a citation in a database (even after leaving out part of what the patron has

told you), don't hesitate to drop parts of the citation into Google (or your favorite search engine) to try to figure out where the problem lies. In doing a Web search, you are looking for the citation to appear on someone else's Web page (where one hopes that it's correct and complete), or at least to gain some sense of context that would indicate, for example, that you have chosen to look in a database in the wrong subject area. Maybe you can even find the author's Web page and see how he or she referred to the work in question. Try anything you can think of to provide a clue.

### Rare or Obscure Topics

You can also start with a Web search when the patron indicates that what she is looking for is quite obscure, and you want the biggest haystack possible in which to look for that needle (think of the desperate parents in the movie *Lorenzo's Oil*). Of course, the patron has probably already searched on the Web, but perhaps you can do it better. Do a quick Web search if the topic is obscure *to you*, just to try for a quick sense of context and possibly some additional useful keywords.

### Medical Questions from Laypeople

If you are working on a medical question with a patron who is not a member of the health services professions, it is hard not to use the Web in your research. As mentioned in the previous section about Medical Questions, the patron very likely has been searching the Web on his own, and one can't deny there is a great deal of medical information available there. What is imperative is that you impress on the patron that much of it is incorrect, misleading, and outright dangerous, unless it comes from a reputable source. Depending on the resources available in your library and the skill level of the patron, your approach might be to encourage a change not in *source* but in *methodology*. Rather than simply doing Web searches, you can try to get the patron to *browse* reputable sites, such as MedlinePlus.gov, or WebMD.com, and the sites of, again, reputable organizations. Use Web searches to find those associations and organizations, but then urge the patron to go into those sites and browse or search within the site. If at all possible, however, databases such as *Health Reference Center* or the *Virtual Reference Library*, both from Gale, would be preferable.

### Standard Facts and Statistics

For someone looking for a specific, standard fact (e.g., in what year did the Berlin Wall fall?), the authority of an encyclopedia database is attractive, but you may well just try a Web search, because it might be quicker and just as useful. (It's a standard date, after all; if the page comes from a credible source, it might be right. You might even trust Wikipedia in this case.) Of course, if the patron then wanted historical background for the falling of the Wall, you should get back to the encyclopedia or article databases very quickly. The area of quotations and definitions can be equally murky: in a situation in which it doesn't matter that much, you can probably just do a Web search. At the reference desk, if you have a resource such as *Oxford Online*, it would be more authoritative and professional to use that.

As we found in Chapter 8, government agencies provide quite a wealth of statistical and numerical information on the Web. There aren't as many databases available in this area, so I often find myself using the Web as an

equal partner when a question requires statistics or numbers to answer it. (But again, if I have access to an appropriate database, it almost always provides a much more *efficient* way of getting the information and usually is more authoritative as well.)

### Quick Recap

Although you can certainly find academic material on the Web (papers, lectures, reports, etc.), organized, academic research is not yet its strongest point. (There are exceptions, of course, such as the arXiv site for high-energy physicists.) The overarching themes in this Questions for the Web section have rather been issues of daily life, popular culture, people, and connecting with the “informal college,” that is, tapping into the “web” of other people’s knowledge (e.g., for software questions, obscure topics, or “fragment” questions: lyrics, quotations, etc.). The Web is useful for providing clues, context, or a reality check. It is amazing—what *did* we do before?

### Exercises and Points to Consider

1. What do *you* use the Web for? Try keeping a journal for a week in which you record every time you use the Web to answer a question, either at work or in your personal life. Can you detect any common themes in your Web use?
2. “Search madness” activity: if you are using this book as part of a class, have the group come up with a list of questions that they have encountered in a library, in their studies, or in their daily life. Then add in questions from earlier chapters in this book, or from search assignments. For questions that required databases before, try them as Web searches. For the questions submitted by the class, decide which seem suitable for the Web, and which are for databases. Spend a session just searching and comparing results.

### Suggested Reading

Tenopir, Carol. “Sorting Through Online Systems.” *Library Journal* (May 1, 2002): 32, 34.

This is the shortest, sanest set of tips and advice for keeping the plethora of databases “straight” in your head. Even though some of the names have changed since 2002, the advice still applies. A must read.

### Notes

1. For the record, this is a “sea change” from the early days of searching on systems like Dialog, where you paid by the minute and often by each record displayed. Then you really did do your homework thoroughly before “going online,” and it was generally expected that you would get it right the first time. The advent of databases on CD-ROM and now on the Web has totally changed this aspect of searching (for the better).
2. Google for “institutional repository” +DSpace or +Eprints for more information on this topic.

3. This varies a great deal by discipline: tutorial articles (which can also appear under a title of “Review” or “Survey”) are common in the Engineering and Computer Science literature. There is a standard format for articles in medical journals that includes a literature review, and the more scholarly library science articles have this as well. A literature review might not be the same as an overview, however, and certainly in subject areas such as business, a real “overview” is fairly rare.

4. Unfortunately, I often find it hard to convince my patrons—who are generally undergraduates or graduate students—that an encyclopedia entry is a valid resource or way to start. I’m trying to point them to a specialized encyclopedia, but they seem to relegate anything with *encyclopedia* in the title to “little-kid” status.

5. In a study published in May 2008 comparing coverage of the engineering literature in *Compendex* and Google Scholar, the researchers found an almost 90 percent matching rate in Google Scholar for materials published after 1990. See Meiera, John J. and Thomas W. Conkling. 2008. Google Scholar’s Coverage of the Engineering Literature: An Empirical Study. *Journal of Academic Librarianship* 34 (May): 196–201.