The Fine Art of Finding Sources

This chapter is on tactics, about how best to find sources to help you answer your research questions. Here I mean *find* in all senses of the word: to identify the existence of sources, to verify the accuracy of citations (if they are incomplete or in conflict with other references you have), to locate the sources you have identified, and then to actually obtain them.

Before we begin, I need to acknowledge two complications. One is that every assignment, project, and set of research questions is unique, not because it has never occurred to anyone before in the history of human curiosity, but because each researcher is unique. The knowledge and the experience you bring to your project differ from your instructor’s knowledge and experience, as well as from what your contemporaries may know and have experienced.

The other complication is that the resources you will encounter—especially the combination of tools and sources in any library’s collection—are also unique. Furthermore, every researcher must deal with such variables as the location and hours of their library, the availability of reference staff, the extent of remote access to electronic databases, circulation periods for materials, how quickly items can be borrowed from elsewhere, and a whole raft of local policies and procedures. You will find variations even among libraries within a school district, across a public library system, or on the same college campus. I do not try to address every specific circumstance but instead urge you to acquaint
yourself with your library’s peculiarities during the self-orientation process outlined in chapter 2. If you are ever stumped about how to “translate” the steps in this book to your own setting, you know what to do: ask.

My response to both complications is to be generic when I explain library research tactics, relying on you to figure out how to accomplish each action in your own situation. Every researcher gets stuck sooner or later, so there is no shame in seeking help. The challenge is to communicate clearly about what you have already done and found. I have some “scripts” to assist you when you contact a reference librarian, but the crucial thing is to be specific.

**How Far We’ve Come**

Let’s review: you’ve started with a research assignment, settled on an interesting general topic, done some background reading, begun a research log, brainstormed about various aspects of your topic, and chosen at least one research question to investigate. You are also aware of the difference between tools and sources, know that tools come in three “flavors”—fact, finding, and hybrid—and have learned that sources can be primary or secondary depending on how they address your research question. You understand that if you follow a basic search strategy, using finding tools to identify sources, your research process can be thorough and efficient. Lastly, you foresee the need to evaluate sources in the light of each research question, and know that at some point you will have an insight about how all your evidence can fit together in a compelling argument, the story you will ultimately tell your audience.
Until now I have been using the plural phrase *research questions* because most complex projects involve two or more related inquiries. From here on in this chapter, I use the singular, *research question* or just *question*, to avoid grammatical difficulties. You will need to apply each tactic I discuss to each of your questions, and I suggest that you do so concurrently. That is, when you search your library’s online catalog to identify secondary (interpretive) book sources on your question A, you might as well do the same for your question B. This not only will save time but will allow you to discover new connections. Perhaps the same expert has written books on both your questions, or perhaps the concept you are exploring originated in another field. Those could be promising leads, or even triggers for your insight.

What Exists? Where Is It? Is It Any Good?

These are the core concerns of the library research process. No amount of speculation about what information, reference tools, or specific sources might be helpful can replace the actual experience of seeking them. I hope I have convinced you that the preliminary steps in the process are themselves essential, but we’re now to the Hunt, where inquiry meets reality. The Hunt has three overlapping phases: determining that sources with certain features exist, obtaining them, and assessing whether or not they really relate to your research question. Logically, all three must occur for you to succeed. If you can’t identify the sources you imagined when you brainstormed, if you spot one but can’t
acquire it in the time you have, or if you recognize that it is not in fact useful, then you need to release it and keep hunting.

MARY’S MAXIM #9: Expect Complexity

Call to the Hunt

It is important to grasp the difference between scouting (exploring to see what sources there are) and trapping (acquiring them). Both ventures are forms of discovery. When you explore, you don’t yet know what relevant tools (fact, finding, and hybrid) and sources (primary and secondary) may exist, so you are trying to identify them. Once you have done so, your aim will be to obtain them, either as physical objects (books or journal articles) or as virtual objects (electronic texts or images). Some finding tools—notably any library’s online catalog and quite a few article databases—will help you complete both tasks at the same time: you will learn not only that a helpful source exists but also that it “lives” on a certain shelf in the collection or in digital form behind a hot link. In other cases, you will need to follow a more involved procedure, first deciding that a specific source seems useful, then determining where or how you can get it, then taking the appropriate steps to do so. I return to these maneuvers a bit later, but I want to caution you that—Google and its rivals notwithstanding—you should never count on rounding up all the sources you need for a project simply by surfing the Web and downloading files you come across there. Rarely will you be able to
complete a research assignment successfully without moving away from your computer.

MARY’S MAXIM #10: Exert Mind, Mouse, and Muscle Together

The next sections address concepts and methods involved in discovering sources, both how to identify them and how to actually get them. In chapter 5, I discuss ways to judge how well the sources you have collected answer your research question.

Nouns to Know Now: Citation, Reference, Record, and Abstract

I use citation and reference interchangeably to mean a basic description of a source, whether someone else provides it to you—say, at the end of an entry in a subject encyclopedia—or you provide it to your own readers. The purpose of a citation or reference is to document evidence so that others can, if they like, track it down themselves.

Two related, but more complex, terms I use frequently are record and abstract. A record is information (about a source) that you retrieve from an online catalog or article database. A record can be a bare-bones description—not much more than a citation—or it can offer you valuable clues about the features and content of a source. An abstract, which is part of each item’s record in an article database, provides the best help of all: a summary of that source. Whenever you see an abstract, read it before you do anything

(continued on next page)
Discovering Sources: Theory

It stands to reason that you can’t capture sources if you don’t know what you’re looking for. Likewise, no matter how precise your inquiry is, you will falter if you rely exclusively on your own vocabulary and, as a result, either overlook an essential idea or miss a good source that has a clever title but offers no hint that it can help you.

Veteran researchers and librarians cope with this dilemma by continually switching back and forth between known-item searching and concept searching, which itself has two variants, keyword searching and assigned-subject searching. They do known-item searching when they already have a reference to a source they want to trap, and concept searching of both types when they want to scout for sources but do not know of any specific ones. For them, the two approaches are as automatic as inhaling and exhaling, but as a novice you need to realize that sometimes you will be looking for a source recommended by someone else, in the form of a written citation or a spoken suggestion, and other times you will be relying either on your own words, derived from your research question, or on subject terms applied to a source by someone else. Figure 4.1 illustrates the options.
Known-item searching
(If you have a reference already)

For a book, search an online catalog

For an article, search an article database

By author (last name, first name)

By title (omitting a, an, or the, if the first word)

Concept searching
(If you do not have a reference already)

Compile a list of keywords about your research question, then search an online catalog or article database using one of its keyword search options

Do a subject search of an online catalog or article database, browsing first to learn what assigned-subject descriptors best match your needs

Figure 4.1: Searching for Sources
Note the boxes that show the two kinds of concept searching: **keyword** (using words and phrases *you* think best represent your research question) and **assigned-subject** (using words and phrases *someone else* has already given each source). Assigned subjects go by many names, including subject headings, descriptors, controlled or standardized vocabulary, thesaurus-based terminology, and authorized headings.

Concept searching is not simply a matter of throwing notions from your head into your favorite browser’s search box. Terms that come from your thinking, brainstorming, conferring with your instructor, background reading, research log, and fact tools (such as dictionaries) you consult are all necessary, but they are not, alas, sufficient. To do a thorough job of concept searching, you will also need to figure out and use the terminology *which has already been assigned* to sources that might be useful for your research. Who assigns these terms? Catalogers assign them to book sources. Indexers assign them to article sources. The role of catalogers and indexers is to describe sources they add to finding tools so that researchers can retrieve everything relevant.

OK, you say, so how do I guess what words and phrases these strangers have used? And even if I do guess correctly, what payoff do I get from the effort? There are several reassuring answers to those concerns. One is that catalogers and indexers apply standardized vocabulary to sources *they have actually examined*, so the benefit when you search with *their* terms is that you won’t miss relevant sources that don’t happen to match *your* terms. For instance, you might want material on what you (and most people) call *cars*, but that catalogers and indexers all call *automobiles*, regardless of the actual title of any book or article. Hence, if you search using
automobiles, you will identify everything your library’s catalog and databases have to offer.

Second, the words and phrases that specialists give to sources are easy to discover because they compile them in a list you can view, adding new terms as necessary (September 11 terrorist attacks, 2001) and pointing from synonyms to their “official” term for a concept (rocket ships, see space vehicles). You are already familiar with cross-referencing, as this pointing is called, from telephone books, where alternative spellings of last names appear in the white pages and advice on “correct” terminology is found in the yellow pages (doctors, see physicians).

Every library’s online catalog and most article databases—the exception being some newspaper databases that allow you to search for articles by keywords only—will have a way, usually through an obvious icon or link, for you to scan its internal thesaurus of subject terms, then choose appropriate ones and search them with just a mouse click or two. Taking a minute to browse an online subject thesaurus before you search will help you uncover sources you would otherwise miss if left to your own descriptors. Reference librarians can show you where to find and how to interpret the subject thesaurus that goes with any online catalog or article database.

Third, these professionals take time to analyze each source when they have it in hand, not just for its main content but also for its approach and other features, such as the inclusion of maps or illustrations. For instance, you may be interested only in topic X, and a book may seem from its title to be only about topic Y. If a cataloger has noticed that it contains a significant treatment of X, and has included a detail to that effect in the catalog, your well-constructed search will identify that source.
A fourth and related point is that, after examining a source, a cataloger or indexer will typically give it a variety of terms to reflect its intellectual angles. The result is that, in addition to using several keywords to look for one source that will be relevant, you can also look at the description of one relevant source, then use its assigned-subject headings to burrow deeper into the catalog or database to bring more sources to light.

Since this is both the most difficult and the most important point to grasp, here is an example. Let’s suppose that your topic concerns censorship of novels in America in the twentieth century, and that your research question is, “How did the Cold War influence censorship activities?” (Recall from the brainstorming checklist in chapter 2 that how and why research questions are always more interesting than who, what, when, or where ones, or than those you can answer with just yes or no.) Your professor has recommended a scholarly book he knows your library owns, by an author named Steinle and with the phrase In Cold Fear somewhere in the title.* If you perform a known-item search of your online catalog with those clues, you will see the basic description of the Steinle work, along with its call number. But if you then look at the extended form of the book’s description (you may need to click a button labeled “full display,” “long view,” or the like), you will be astounded to learn that a cataloger has given it ten different subject headings, any of which—had you done a keyword search instead of a known-item search in the first place—would also have led you to this source. Since each of the ten subject

headings is a hot link, all you need to do to discover more book sources related to your question is to click sequentially on those that look most helpful, for instance, fiction—censorship—united states, or salinger, j. d. (jerome david), 1919—censorship.

Last, online catalogs—and quite a few article databases—use the same subject headings, so you will likely need to search only a handful of assigned terms to identify useful sources. I encourage you to use your research log to keep track of the most relevant subject headings you discover in each catalog or database, so you can refer to them and research with them elsewhere in the future. To get the biggest research bang for the buck, you should make use of multiple terms, both keywords from your thinking and subject descriptors that specialists have assigned to sources.

Absolutely everything I’ve said in the last few pages can be summarized by another maxim.

MARY’S MAXIM #11: One Good Thing Leads to Another

Where you begin searching is never as important as recognizing which clues you already have and how to follow them in your quest for sources. The ratio of known-item searching to concept searching will vary with each research project, but generally you will do a smattering of known-item searching at the start (looking for sources mentioned at the end of an encyclopedia entry, for instance), followed by a lot of concept searching of both types (keyword and assigned-term), then more known-item searching toward the
Discovering Sources: Overview of Approaches

There are three principal and interconnected tactics involved in the search for sources. They are

Tactic 1. Using keywords to search a library’s online catalog or an article database;
Tactic 2. Using “givens”—that is, assigned-subject descriptors—to literally re-search the same online catalog or article database;
Tactic 3. Using a reference to a specific book or article to locate and obtain it.

Supporting these tactics are three others:

Tactic 4. Verifying details about a source;
Tactic 5. Browsing the shelf where a relevant book source is;
Tactic 6. Using the documentation (bibliography and notes) of scholarly (secondary) sources you come across to lead you to others.

These six methods are interdependent, but I find that starting with terms the researcher brings to the task is always more gratifying, and usually faster, than other approaches. In addition, keyword-first searching is likely to reveal several recent sources that are locally and readily available, either on a shelf or online.

Unless I note otherwise, the following explanation applies to both online catalog searching (which leads to books) and database searching (which leads to articles of various types).
Tactic 1: Discovering Sources—Keyword Approach

Keywords are the vocabulary that surrounds your research question. Keywords come from various places, most commonly from your research assignment itself, your background reading (in a hybrid tool), conferring with your teacher, thinking about your topic and research question, brainstorming with friends, and looking up words in a dictionary or thesaurus (both fact tools). If your research is likely to involve sources in a foreign language—and assuming you are at least moderately fluent in it—then you will need to list keywords in both English and the other language(s).

I confess that when I meet with a student to help identify sources that address their research question, we often miss important terms on the first try. That’s inevitable, I think, given the bounty of English vocabulary and our human tendency to type whatever words occur to us in any search box we see. Although you may trust Google to read your mind and come up with useful Web links, that is not the best technique for searching either online catalogs or article databases. Rather, this problem solves itself because even the most basic keyword search will quickly reveal additional terms you can use in other searches to achieve more precise results. These additional terms turn up in the titles, assigned-subject descriptors, contents listings, and abstracts of the items you retrieve from even the “dumbest,” most spontaneous initial search. To harness the expansive power of keyword searching, you just need to stay alert as you explore, remain open to different ways of stating your research question, and be ready to jot down new ideas for future use.
Here is an example. Let’s say you are asking to what extent eating disorders caused by peer pressure may correlate with academic performance in college. Together we decide the question involves concepts related to medicine, education, and age. So we jot down the keywords we intend to use in three columns, like this:

<table>
<thead>
<tr>
<th>Medical Keywords</th>
<th>Education Keywords</th>
<th>Age Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>eating disorders</td>
<td>achievement</td>
<td>college students</td>
</tr>
<tr>
<td>anorexia</td>
<td>success</td>
<td>teenagers</td>
</tr>
<tr>
<td>bulimia</td>
<td></td>
<td>young adults</td>
</tr>
<tr>
<td>obesity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Then, because you want to find periodical articles first, we construct a keyword search in a multidisciplinary database that looks like this:

```
eating disorders OR anorexia OR bulimia OR obesity
AND
achievement OR success
AND
college students OR teenagers OR young adults
```

The three sets of concepts can, of course, be in any order; the results of your search will be the same. I am writing the connecting words or and and in capital letters just so the logic will be clear, although most online catalogs and databases are not case sensitive, meaning you can enter your keywords either way.

Only after we experiment for a few minutes and scrutinize our results does it dawn on us that we would probably get better results if we include the words weight and health in
the first group of keywords, adolescents and youth in the third group, and if we avoid the terms parents or family. And indeed that’s what happens. The need to go back and redo searches is a common experience—in fact, this sort of tinkering will help you gauge the number of possible sources so you can decide whether to expand or narrow your next search—but you can minimize your effort if you start with a longer list of keywords. Whenever and however you discover additional relevant keywords, be sure to write them in your research log so that they will be handy throughout the rest of your strategy.

Now let’s fine-tune that same example. Rewritten in the format common to most catalogs and databases, with the additional keywords, it becomes

\[
(\text{“eating disorder*” OR anorexi* OR bulimi* OR weight* OR health*})
\AND
(\text{achieve* OR success*})
\AND
(\text{“college student*” OR teen* OR “young adult*” OR youth OR adolescen*})
\NOT
(\text{parent* or famil*})
\]

This looks weird, I grant you, so let me explain what’s going on. The parentheses around the different concept groups are there to keep each set of synonyms together. If a source concerns either anorexia or bulimia or any of the other terms in that group, you would be interested in it—provided it also concerns either achievement or success, plus any one of the key ideas in the third group, but not either of the terms in the fourth group. This is an unusually complex case, but I want to point out what’s possible. The logic is
mix-and-match because you don’t know what you will turn up, so you can’t search for a specific author or book title. (This would also be true if we were trying a keyword search in an article database instead of a library’s online catalog.) You can consider this a fishing expedition, if you like, and you will usually catch some relevant sources quickly. But even if you don’t, keep in mind that negative results—for example, if you don’t find any book sources about your research question—are themselves meaningful, if frustrating. In fact, graduate students and other advanced researchers will often breathe a sigh of relief when they do not turn up books on their topic because they want to be the first to write one, or they realize that their research question is cutting edge and suspect that any sources that exist would be very recent articles in scholarly journals.

There are two major reasons your search may not yield results. One is that your research question may not yet have been treated in a book-length publication (for instance, it could be too current or local for such an extended study). The other reason is that the library whose online catalog you are searching may not have books in its collection related to your research question, or to the larger topic surrounding it. In either case, you will usually discover articles about it in short order as you continue your search strategy. Don’t be discouraged when nothing emerges from a library’s online catalog on your first try. Instead, give some thought to the keywords and logic you used, confer with a reference librarian, make a note about what you did in your research log, and keep trucking.

As to the quotation marks around and the asterisks (aka stars) following some of the keywords: quotation marks are a traditional way to make words stick together as a phrase, and an asterisk is the most common “wildcard” symbol to
indicate that you want all the variants of a word. Rather than type *teen, teen’s, teens, teens’, teenage, teenager, teenager’s, teenagers, and teenagers’, just *teen will do the job, allowing you to retrieve online catalog or article database records that include any form of the root word. Nine keywords reduced to one is a real bargain.

Here’s the rub: depending on the design of whatever electronic finding tool you are searching, you may not need to put quotation marks around phrases, asterisks at the end of terms to truncate them, or logical connectors to specify how your keywords relate to each other (typing *or between synonyms, and to combine groups, not if you ever want to exclude a concept). Why? Because most offer an advanced (sometimes called a guided) search screen where you can enter your keywords in multiple boxes and use menus or checkmarks to indicate how you want them to be combined. My advice to people who want to do keyword searching—

Truncation: The Researcher’s Friend

The formal term for using symbols to represent letters is truncation, which simply means to cut something short. It is indeed a shortcut because, used thoughtfully in an online catalog or article database search, it saves time and keystrokes. However, if you don’t stop and think before you truncate keywords, you will get some bizarre results. For example, entering *war when you want sources about either wars or warriors will also yield sources about warblers, wardrobes, and warranties. I find this amusing (briefly) when it happens to me, but then I redo my search to avoid such false hits, as they are called.
and this is everyone sooner or later—is to find and use the advanced search option in each catalog or database they try. You don’t need to fill in more than one box or use all the possible connectors, but these features are there if you want them. Another benefit of working with a tool’s advanced search screen is that you will be better able to see why you got puzzling results and how you can fine-tune your search. And don’t be surprised to find that each search interface has its own quirks—most often the use of a truncation symbol other than, or in addition to, the asterisk, for instance, ?, !, #, $, or $ (go figure). Remember

MARY’S MAXIM #12: IF AT FIRST YOU DON’T SUCCEED, READ THE SEARCH TIPS

George Boole and John Venn

Here is the place to mention two British thinkers, George Boole (1815–1864) and John Venn (1834–1923), whose work has a direct bearing on the library research process. Boole is known for his formulation of various laws of reasoning that we use to combine keywords in an online catalog or article database search. The example I used previously, of constructing a search about adolescent weight and college success, illustrates Boolean logic in that keywords or phrases that are either synonymous or related to one aspect of the research question are strung together with the operator or, while groups of terms that qualify one another are connected with and, and concepts to exclude are indicated with not.
The important, and difficult, thing to understand is that Boolean logic is the opposite of addition and subtraction in arithmetic. **When you add concepts to one another in a Boolean search (using the connector *and*), you are reducing the number of results you will get from a catalog or database because you are being more precise about what you want.** Fortunately, many Web browsers and finding tools provide ways—usually on their advanced search option—to help people enter the logic they want via menus or boxes with labels such as “any of these [keywords],” “all of these,” “none of these,” and “exact phrase.” Also fortunately, we have John Venn’s simple diagram that uses overlapping circles to represent, in this instance, three concept groups, their intersection being the relatively small but relevant set of sources one wants.
Tinkering with Searches

Boolean logic and a Venn diagram will help you formulate your keyword searching, but often you will want to sort or sift your results. Most online catalogs or article databases will display items alphabetically (by author or title), chronologically (typically with the most recently published source listed first), or by relevance (calculated by a hidden rule that weights the key terms you entered). Somewhere on the screen near the top of the display will be a way to change the sorting order. It’s a function worth finding, but even more useful is the ability to screen your results by one or more factors. For instance, you might want to retrieve sources published between 1996 and 2000, or ones only in English, or (in an article database) album reviews rather than biographies of the performer. You can apply any of these criteria—singly or in combination—in most electronic finding tools, but you may need to look carefully at the display screen, read the online help text, or confer with a reference librarian to determine how to do this. Look especially for links labeled modify, refine, revise, or qualify.

Here I want to comment on the worst and the best choices you can make as you search. The worst one is to restrict your search results to items linked to full text (either basic HTML format or a PDF image) in that catalog or database. I realize that convenience and deadline pressures make this an extremely enticing approach, but it is also an intellectually limiting one. You will end up suppressing relevant sources you would (and should) want to consider for your research, and which may be readily available in another database you have access to, or in another format in your own library. My advice always is
MARY’S MAXIM #13: 
Don’t Settle for What’s Handy

The best search choice, assuming you want articles written by experts—as opposed to popular or journalistic treatments of your topic—is to click the tab or icon provided by most databases that allows you to target your results to scholarly articles. If the way to do this is not obvious, then either explore the help link within the tool or ask a librarian to show you where this powerful option is lurking.

My own preference is to search in two stages, first concentrating on my keywords and Boolean logic, and then, after I see the number and nature of my results, deciding whether and how to adjust my variables. I’d much rather have thousands of hits and the satisfaction of winnowing the total down to a dozen really relevant ones than do a highly restricted search and have nothing to show for it.

Tactic 2: Discovering Sources—
Assigned-Subject Approach

I’ve already explained that the two “flavors” of concept searching are keyword and assigned-subject, and that the former uses your own terms to describe your topic or research question, whereas the latter relies on uniform terminology applied to each source by the people who create a finding tool. It follows that before you can benefit from the assigned-subject method of searching, you need to figure out what that uniform terminology is. This sounds like a bureaucratic runaround, but it’s not. You actually have three ways to figure this out, all literally at your fingertips:
1. Start with a source you already know is relevant, because you’ve examined it or someone has recommended it to you. Look it up in the library’s online catalog (if it’s a book) or in an article database (if it’s an article). Once you are looking at the record describing the source, find a button or link on the screen that will display the maximum information about it. Typically, the button or link will be labeled “full display,” “complete record,” “more information,” or something similar. If you don’t see it right away, ask a reference librarian how to drill down for this detail. When you do, along with notes on other facets of the source (for instance, indicating it contains maps or is a reprint of an earlier publication) will be links to its subject descriptors. Click on one that seems relevant, and it will lead you to similar sources. (There are two exceptions to this procedure: if you start with a work of literature—a novel, a short story, a play, or a poem—or if you start with a newspaper article. This is because many databases do not assign subject descriptors to such primary sources.)

2. Do a keyword search in the catalog or database, making it as simple or complex as necessary. Look at the list of hits for a source that definitely concerns your research question. (My own rule of thumb is to scroll through no more than two screens of results, and if I do not see anything relevant, I reformulate my search.) Then view that source’s description in its fullest form and, as when you start with a known item, exploit its subject descriptors to take you to other useful sources. A nice, if slightly spooky, feature of some article databases is that they attempt to second-guess what you have in mind, suggesting subject descriptors and combinations somewhere on the screen when they display the results of your search.
3. Confront a finding tool head-on to make it yield its list of assigned-subject terms. If you want to identify books, go to the online catalog’s main search screen and figure out how to do a subject search, probably by clicking that choice. Enter what you think is the most logical descriptor for your topic (for instance, just puerto rico). This tactic is an open sesame command that will reveal the otherwise-hidden thesaurus. You will see a display of all the assigned-subject terms, in alphabetical order, that start with whatever word or phrase you entered. For example, puerto rico—emigration and immigration, puerto rico—foreign relations—united states, or puerto rico—history—autonomy and independence movements.

You will also likely encounter note icons next to certain entries. These are a big help to any researcher, so don’t ignore them. The text behind such an icon will tell you what that term means and may point you to broader, narrower, or related subject headings used in the catalog. For instance, if you start with the subject pollution, you will see the explanation, “Here are entered works on the condition resulting from the action of environmental contaminants. Works on the substances which contaminate or degrade the environment are entered under pollutants,” plus suggestions for more specific subject headings to search such as electric power-plants—environmental aspects, groundwater pollution, or hazardous wastes. Since these alternatives will be links, you can follow any one of them with just another mouse click and quickly arrive at what you are seeking.

If, instead of a book, you want articles on your research question from scholarly journals, popular periodicals, news
About Serials and Peer Review

The word *serial* pops up frequently in library research. It is the umbrella term for a publication that contains articles, appears more or less on a predictable schedule, and is sold to libraries and individuals via subscription. (The equivalent word to describe a book publication, typically one volume devoted to a single topic, is *monograph*. ) The most common types of serials are magazines, news magazines, newspapers, periodicals, and scholarly journals. Scholarly journals are those intended for a specialist audience—you will seldom find issues at a newsstand—and that publish what are called peer-reviewed articles, meaning each contribution is evaluated by a panel of experts prior to publication. The adjectives *academic*, *juried*, *peer-reviewed*, *refereed*, and *scholarly* are used interchangeably to indicate the nature of an entire journal and its individual articles. Most article databases allow you to restrict your search results to peer-reviewed articles, but if you are ever unsure about a journal’s character, you can check *Ulrich’s Periodicals Directory* (a fact tool available online or in print in every library). You might also want to revisit the discussion of peer review in chapter 1.

magazines, or newspapers, then you should carefully examine the first search screen that appears, looking for labels such as *browse, subjects, index, or thesaurus*. These labels may appear next to an icon, a link, a button, or a box, but regardless of the wording or screen design, their function is to lead you down into a researcher’s gold mine, the assigned vocabulary used in that database. If you don’t see any such label on the database’s opening screen, then look for the
advanced search option—it may also be called a guided or fielded or complex search—which will present you with several choices, among which will be a route to the assigned-subject terms. Typically, you can search or scroll through a list, then select the term you want and, with a single click, have it appear in the appropriate search box without your having to copy and paste it there.

**Tactic 3: Discovering Sources—Known-Item Approach**

At several points in every project, you will discover leads to specific sources you want to obtain. Sometimes the lead will provide the source instantly, as when your instructor both suggests a good book or article and offers to lend you her personal copy for a few days, or when one entry in an encyclopedia refers you to another one. Other times you may discover the lead on your own in an online catalog or article database, or on a Web site and find a link right on the screen to the full text.

Unfortunately, you cannot rely on effortless techniques alone to get you through an entire research project, especially if you expect to need a wide variety of sources in different physical formats, created over decades or centuries. If you do, the work you produce will be a holey mess because you will miss important information and points of view. So whenever you identify a source you would like to examine, but all you have is a description—from a footnote, bibliographic citation, reference tool, offhand mention in a newspaper story, or your professor’s hazy recollection that “a few years ago, Jones published an important paper on your topic”—you need to take action. First, determine
whether the source in question is a whole book, a chapter in a collection or anthology, an article, or something else. Then here’s what to do, in table form. Note that the steps in the right column are what you should do to obtain any source, regardless of how you identified it.

| If it’s a whole book | Use the library’s online catalog to search for the book by author (last name first) or title (omit the initial articles A, An, The). If the title is long, you can usually enter just the first few words, for instance, UNITED STATES OF EUROPE. If the book appears in the catalog, note its location, call number, and status. Assuming it is available, find out where it is shelved. Go there and retrieve it, being alert for other useful sources on the same or adjacent shelves. |

If the book does not appear in the online catalog, do another type of search. For example, if you started with a title search, do an author search on the second try. If the book still doesn’t turn up, or if the library owns it but it happens to be checked out or missing, confer immediately with a librarian about what you can do to obtain it. Keep in mind that you may need to go to another library to get an item, especially if what you want is unpublished or rare. For other things, ask about your library’s interlibrary loan service. If you are eligible

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and have a week or so to wait, this is an excellent way to borrow a book from elsewhere—or, in the case of an article, obtain a photocopy or digital version you can keep.

If it’s a chapter in a collection or anthology

Use the library’s online catalog to search for the book, by either editor’s name (do an author search) or book title. Do not attempt to search for the chapter’s actual author or the chapter title, because in most cases you will not find it. Follow the same steps as above in order to obtain it.

If it’s an article

Show a reference librarian the most complete information you have. Get advice about whether the library has a database that is likely to provide the article’s full text. If so, connect to that database and search by the title of the article (omitting any initial article) or by the article author (last name first). If the librarian’s opinion is that the article is not available electronically in a database, you can try Google Scholar, but the best bet is usually to search the online catalog under the title of the magazine, periodical, journal, or newspaper. If you find the publication in the catalog, look carefully at the description to see whether the library owns the year, volume, and precise issue in which the article appeared. If so, note the physical format (bound volume or microform), location, and call number you

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Tactic 4: Discovering Sources—Verification

Following a lead someone else has suggested sounds like a no-brainer, and it is—but only about half the time. Experts are human and humans get details wrong, whether citing sources in print or recommending them in conversation. If I had a brick for every incomplete, inverted, misremembered, or misunderstood citation I have ever encountered, I could rebuild the Tower of Babel. Whenever a reference to a source you’d like to use doesn’t seem right—for instance, if when you go to the shelf for the bound volume of a periodical containing an article you want, the year and volume in your reference don’t match—do not waste time. You can attempt to untangle it on your own by doing a keyword search in the online catalog or an article database, using what you think are the most distinctive and reliable parts of the reference.

As an alternative, you can go to the reference desk and ask a librarian to verify the citation. This is no different than getting a second medical opinion: the librarian will use various tools, perhaps electronic and perhaps not, to substantiate the
information you have. Almost always, it will turn out that an important element of the citation you were given is missing or erroneous or garbled. (Sometimes the problem may be your own fault, especially if you’ve copied the reference down without asking your informant how to spell an author’s name.) Once you have a verified, accurate citation, take the relevant step from the table above to acquire the item.

<table>
<thead>
<tr>
<th>What You’d Like to Know (and can’t figure out on your own)</th>
<th>Example of How to Ask a Reference Librarian about It (Be ready to explain what you have already tried.)</th>
</tr>
</thead>
</table>
| Background information on your general topic               | Can you recommend a subject encyclopedia that deals with [your topic]?

Detective Work

Suppose the information you have, and which doesn’t seem right, is to a book by William Applebaum with the title *The Scientific Foundation of Revolution*. You could try various combinations of these givens—the fewer terms in each search, the better—using the advanced keyword option in the library’s online catalog. Eventually just entering the search `applebaum` and `scien*` would get you to the correct information, a book by Wilbur (not William) Applebaum with the title *The Scientific Revolution and the Foundations of Modern Science*. I am often grateful that you can use the name of the publisher, if you have it, in a keyword search, and even just the *first* name of a person if you’re not sure about the last name.
<table>
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<th>What You’d Like to Know (and can’t figure out on your own)</th>
<th>Example of How to Ask a Reference Librarian about It (Be ready to explain what you have already tried.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where is the best place to enter a keyword search</td>
<td>How do I get to the advanced search screen [in an online catalog or article database]?</td>
</tr>
<tr>
<td>What subject headings to search in your library’s online catalog</td>
<td>How can I tell what subject headings to use in the catalog for [your topic]?</td>
</tr>
<tr>
<td>Where to identify articles on your topic</td>
<td>What database would you suggest for popular and scholarly articles about [your topic]? Does it include newspaper articles, or is there a different database for those?</td>
</tr>
<tr>
<td>What subject descriptors to search in an article database</td>
<td>Does [name of database] have a list of subject descriptors I can browse? If so, how do I get to it?</td>
</tr>
<tr>
<td>How to reduce your search results</td>
<td>Is there a way to adjust my search [in an online catalog or article database] by language, date, or whether the articles are peer reviewed?</td>
</tr>
<tr>
<td>How to increase your search results</td>
<td>Since I’m not finding enough sources, what ways would you suggest to broaden my search?</td>
</tr>
<tr>
<td>How you can tell from your search hits whether a book or article might be useful for your research</td>
<td>How can I see more information about [a book or article]? What clues can help me evaluate it? How could I find a review of it?&quot;</td>
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</tr>
</thead>
<tbody>
<tr>
<td>How to obtain an article you have identified but that does not have a link to the full text</td>
<td>Please show me how to locate [this specific article for which you have a citation].</td>
</tr>
<tr>
<td>If the library has a specific issue of a periodical or newspaper</td>
<td>How can I determine the library’s holdings of [name of the periodical or newspaper]?</td>
</tr>
<tr>
<td>Whether a reference you found in a bibliography or footnote is correct</td>
<td>I’d like help verifying [this reference].</td>
</tr>
<tr>
<td>What to do if a book or bound volume of a periodical is not on the shelf</td>
<td>I can’t find [the item with this call number] where it belongs. Can a library staff member double-check?</td>
</tr>
<tr>
<td>What to do if a book is checked out or missing, according to the online catalog</td>
<td>What is the best way to obtain [a specific book before my deadline]?</td>
</tr>
<tr>
<td>How you obtain a book or article your library does not own</td>
<td>Is it possible to get [a book or article] from another library [within the time I have to complete my research]?</td>
</tr>
<tr>
<td>What other sources the library may have related to your topic</td>
<td>I have already explored the online catalog and [name of article database(s)]. What other approaches would you suggest for sources on [my topic]? Are there relevant materials in special collections or in nonprint formats that the library owns?</td>
</tr>
</tbody>
</table>
Tactic 5: Discovering Sources—Browsing

In chapter 2 I described browsing as one way to decide on a research topic and I have alluded to this method several times since. Smart browsing in the book stacks complements wise concept searching in an online catalog. Both approaches allow you to discover several relevant sources at once, approaching them from different angles. Think of a book as a house. It has just one address (call number), where it sits on a street (shelf) next to other books in the same intellectual neighborhood (general subject). Usually a book has several inhabitants (the different themes it treats). You may ultimately want to meet just one person in one house on the street, but first you need to get there, so you’re open to any route: directions to the neighborhood, a street name, an exact address, a list of inhabitants, or the name of someone in particular. I’ll end this metaphor with

MARY’S MAXIM #14: Curiosity
Begets Serendipity

The best time to browse is all the time. Do not consider it a one-shot step in the library research process, but take every opportunity to examine the book sources you identify and whatever else lives nearby. I’ve already mentioned features to consider in any book you handle, but I want to reiterate the importance of a bibliography, the roundup of sources the author has used. The ideal bibliography—whether in a scholarly book or appended to a peer-reviewed article—is one that is annotated (saying why each item was helpful to the writer), fairly recent, and organized thematically, so that
the reader does not have to skim pages of citations in alphabetical, but not meaningful, order.

**Tactic 6: Discovering Sources—Backtracking**

This is the final method I want to cover for unearthing relevant sources. It is sometimes called footnote stalking, but I prefer the term *backtracking*. I do not mean this in the sense of repeating something you’ve already done, but in the sense of looking back at significant sources that scholars with research questions similar to yours have found helpful. How will you determine what those significant sources are? The best way is to browse the bibliographies in books, or in peer-reviewed articles, that you have already identified and obtained.

Let’s say you have in hand a book or scholarly article that seems extremely valuable for your project. It might be so for any number of reasons—the way the authors frame the issues, their overview of previous research, the primary sources or methodology they use, the data they report, their interpretation of what they found, illustrations or figures they include, how they organize their argument, and so on. To take full advantage of this central book or article, look carefully at its list of works cited to see what sources the writers used. Inevitably, one or more of their citations will jump out at you, providing a new (to you) known item you can pursue, which will in turn lead you to still others. This is what I mean by backtracking, relying on the judgment of experts to point you to sources they esteem.

There are still other discovery techniques, such as tapping into the communication channels of experts or doing something called citation searching to determine the influence of
a known item on later thinking in a field. Such methods, while crucial to advanced researchers, are outside the scope of this book.

What if nothing works? you ask. What do I do if, at any stage or after trying every one of these methods, I still fail to identify relevant sources or I cannot obtain the ones I want? This fear, the elephant in the classroom, is unfounded for 95 percent of undergraduate research projects. Chances are that if you’re frustrated, adjusting or rethinking just one element of your research approach will solve the problem. Suppose your project concerns the barbarian invasions of Europe, that you have decided to focus on Attila the Hun, and that your research question is, “How did he assess his own career?” But alas, you can’t identify the ideal primary source you want to answer that question: his memoirs (in English). So you confer with a reference librarian who recommends reading biographical entries on Attila in certain hybrid and fact tools. When you do that you realize that Attila left no writings and that, in any case, fifth-century conquerors were illiterate. However, you also discover, from the references provided by these tools and your library’s catalog and article databases, that there are many sources in English about Attila’s exploits and influence, so you wisely decide to use these instead as the next best thing. Seek advice and the elephant will vanish.

You may be worried that research that requires using sources is not only complicated but also endless. The complexity will seem less daunting and more interesting as you proceed through the process. You will start to see patterns and references from different people to the same major events, issues, or earlier thinkers. You will become more comfortable moving from keyword to assigned-subject concept searching and from either of these back and forth to
Figure 4.3: Diagram of the Library Research Process
known-item searching. You will get a better idea of what hybrid, fact, and finding tools exist in your own library, and how to obtain the sources you identify, either physically or electronically. In short, your confidence is going to shoot up, and no future research project—regardless of its topic of intricacy—will seem so hard. You may still be a novice, but one with enough experience to know your options.

What about the endless part? Due dates always help, the need to stop scouting and trapping sources and start weaving them into your own argument and presentation. More important than a deadline, however, are the remaining components of the research process: insight and evaluation. As a bridge to the next and final chapter, I present the research flowchart yet again on page 124, shading the elements I have yet to discuss.