3 Finding and Evaluating Sources

If you are a new researcher and expect to find most of your sources in your library or online, this chapter will help you develop a plan for your research. If you are more experienced, you might skip to the next chapter.

Beginning researchers often think of research as just finding information to put into their papers, especially information they believe *backs up* their arguments. This view of research is wrong. It assumes that all evidence is the same and that research involves finding enough sources as specified by an assignment from a teacher. In some cases, of course, students are told to use a minimum number of sources or to use only *scholarly* sources or to avoid Wikipedia as a source. To plan your research project, you must understand what kinds of materials serve as sources and how to use them in your argument.

3.1 Understanding Three Types of Sources

Sources are conventionally categorized into three kinds: primary, secondary, and tertiary. Their boundaries are fuzzy, but knowing these categories can help you plan your research. They differ primarily in the uses to which a researcher puts them.

3.1.1 Primary Sources for Evidence

Primary sources are “original” materials that provide you with the “raw data” or evidence you will use to develop and test your hypothesis or claim and ultimately to support the reasons in your argument. What counts as a primary source varies significantly by field. In history, primary sources are artifacts or documents that come directly from the period or event you are studying: letters, diaries, objects, maps, even clothing. In literature or philosophy, your main primary source is usually the text (e.g.,

Shakespeare's *Macbeth* or Hannah Arendt's *The Human Condition*) you are analyzing, and your data are the words on the page. In arts criticism, your primary source would be the work of art you are interpreting. In social sciences, such as sociology or political science, census or survey data would also count as primary, as could data obtained through interviews, fieldwork (ethnographic observation), or experiments. In the natural sciences, reports of original research are sometimes characterized as primary sources (although scientists themselves rarely use that term).

3.1.2 Secondary Sources for Learning from Other Researchers

Secondary sources are books, articles, or reports that are based on primary sources and are intended for scholarly or professional audiences. The body of secondary sources in a field is sometimes called that field's *literature*. The best secondary sources are books from reputable university presses and articles or reports that have been *peer-reviewed*, meaning that they were vetted by experts in the field before they were published. Researchers read secondary sources to keep up with developments in their fields and, in this way, to stimulate their own thinking. The standard way of framing new research problems is to challenge or build on the conclusions or methods of others, as presented in secondary sources they have written. Secondary sources also include specialized encyclopedias and dictionaries that offer essays by scholars in a field. Secondary sources were once available mainly through college and university libraries, but they are also available through online catalogs and databases, including EBSCOhost and Google Scholar.

You can use secondary sources for three main purposes:

1. **To learn what others have written about your topic.** Secondary sources are the best way to learn what other researchers have said about your topic as well as what kinds of questions they think are important. (Pay attention not only to the research questions they address but also to any additional questions they pose.) You may be able to model your question on one of these.

2. **To find other points of view.** Beginning researchers sometimes believe they will weaken their case if they mention ideas that contradict their own. The opposite is actually true: when you acknowledge opposing views, you show your audience not only that you have considered those views but also that you can respond to them (see chapter 9). Your research will be complete only when you imagine and respond to your audience's predictable questions and disagreements. You can find those in secondary sources. What alternatives to your ideas do they offer? What evidence do they cite that you must acknowledge? More important, you can use the arguments of others to test and improve your own. You cannot understand what you think until you know why a reasonable person might think differently. So as you search for sources, look not only for those that support your views but also for those that challenge them.
3. **To find models for your own research and writing.** You can use secondary sources to find out not just what others have written about your topic but also *how* they have written about it. If most of your sources use headings, charts, and lots of bullet points, then you might consider doing the same; if your sources never use them, you probably shouldn't. Notice things like the language (technical or broadly accessible?), paragraphs (long or short?), and how they use other sources (quotation or paraphrase?). Pay special attention to the kinds of evidence most of them use and the kinds of evidence they rarely or never use. You can also use secondary sources as models for your own argument. You cannot reuse a source's specific claims and reasons, but you can use the same kind of reasoning in your own argument, perhaps even following the same organization. So if you come across a source that's not precisely on your topic but treats one like it, skim it to see what you can learn about how to argue your case. (You don't have to cite that source if you use only its logic, but you may cite it to give your own more authority.)

3.1.3 Tertiary Sources for Introductory Overviews

Tertiary sources are books and articles that synthesize secondary sources for general readers. They include textbooks, articles in encyclopedias (including Wikipedia), articles in publications for broad audiences like *Psychology Today*, or even some educational YouTube videos. In the early stages of research, you can use tertiary sources to get a broad overview of your topic. But if you are making a scholarly argument, you should rely on secondary sources because these make up the conversation in which you are seeking to participate. If you cite tertiary sources in a scholarly argument, you will mark yourself as either a novice or an outsider, and many readers won't take you or your argument seriously.

This response may seem unfair, but it's not. Tertiary sources aren't necessarily wrong—many are in fact written by distinguished scholars—but they are limited. Because they are intended for broad audiences who are unfamiliar with the topics they address, tertiary sources can sometimes oversimplify the research on which they are based, and they are susceptible to becoming outdated. But if you keep these limitations in mind, tertiary sources can be valuable resources: they can inform you about topics that are new to you, and if they have bibliographies, they can sometimes lead you to valuable secondary sources.

3.1.4 Differentiating Primary, Secondary, and Tertiary Sources

Researchers haven't always divided their sources into these three categories. The distinction between primary and secondary sources originated with historians in the nineteenth century and then spread to other fields. The category of tertiary sources was added later. Although this scheme is now the standard way that students are taught to classify sources, it fits some disciplines better than others. It works very well for history, in which primary sources are materials directly connected to a historical event or moment, and for criticism, in which primary sources are the original works of art, music, or literature that you are interpreting. But it works less well for, say, mathematics, chemistry, or nursing.

It is also important to understand that the classifications of primary, secondary, and tertiary are not absolute but relative to a researcher's project. In most instances, an article in a scholarly journal would be considered a secondary source. But it would become a primary source if your research problem concerned its author or the field itself, for example, if you were writing a biography of the anthropologist Margaret Mead. Likewise, T. S. Eliot's essay "Hamlet and His Problems" would be a primary source if you were studying Eliot but a secondary source if you were studying Shakespeare. An encyclopedia article would usually be considered a tertiary source, but it would become a primary source if you were studying the way that encyclopedias deal with gender issues. A TED Talk on election campaigns might be a tertiary source in political science but a primary source in media studies. Change your focus and you change the classification of your sources.

If this is confusing, it need not be. Remember that these classifications are just a means to an end. The important thing, ultimately, is not what you *call* your sources but how well you *use* them to address your research problems, develop new ideas, and make interesting arguments. In the next chapter, we will talk more about how you can use sources in your writing.

3.2 Making the Most of the Library

Even with the internet, there is no substitute for the library. You can use the library not just to find sources on a topic but to explore and refine topics and research questions you might want to pursue. Whether you visit in person, which we highly recommend, or virtually, the library is an indispensable tool for research. Given the volume of information now available online, you might think libraries are no longer necessary except, perhaps, for highly specialized research. However, the opposite is true. With *so much* information at our fingertips, libraries are more essential than ever in doing research. Libraries not only let us access information but also ensure that our sources are reliable. Even if your public or academic library is comparatively small, it serves as a *portal* to a much broader range of resources—research guides, reference works, and

online databases and content—that extends the library's reach. Of course, to benefit from these resources, you must learn to navigate the library.

3.2.1 Planning Your Library Search

Before you can use sources, you must first find and evaluate them. Some materials that will eventually serve as sources will be physically located in your library; others are likely elsewhere, whether online or at another library. To take advantage of what libraries have to offer, then, you must *plan* your search. Fortunately, this is where libraries—and librarians—are most useful.

Knowing where to begin a search can be overwhelming at first. With a topic or a research question in hand, it is tempting simply to enter a few terms in your library's search engine and see what comes up. We do this too, but we also know that the library offers more systematic and productive methods for discovering useful and credible sources.

Ask a Librarian. Perhaps the best advice we can offer is to rely on the research expertise of librarians. Both general reference librarians and (in larger libraries) subject-area specialists can help you refine your search parameters and direct you to the right tools for your specific research question. They can help you use the catalog to locate materials held by your library or by other libraries (and obtainable through interlibrary loan). These same librarians typically design research guides that identify reference works and online databases for specific fields.

And don't be shy. Librarians love to assist researchers of all levels and at all stages of the research process. They can help you formulate your research question, develop search terms, and inventory your results to ensure you haven't overlooked something of value. The only embarrassing question is the one you *failed to ask* but should have. Of course, it pays to meet busy librarians halfway by preparing in advance. If you have

a well-developed research question ready to share, your librarian will be able to give you better advice. You might describe your project using the three-step rubric from chapter 1:

1. I am working on educational policy in the 1980s
2. to find out how school boards in the Midwest dealt with desegregation
3. because I want to understand regional differences in race relations.

Consult Reference Works. If you already know a lot about your topic, you probably also know how to find sources on it. But if you are new to a topic, resist the temptation to go straight to primary or secondary sources that strike you as relevant. This approach is unreliable and unpredictable and probably won't save you any time. A more successful strategy is to allow reference works to shape your search efforts. Compiled by experts, both general reference works such as the *Encyclopaedia Britannica* and more specialized works such as the *Encyclopedia of Philosophy* will give you the lay of the land, so that later it will be easier to see how your sources fit within the bigger picture. In addition, reference works often include citations or bibliographies that can lead you to sources you might otherwise overlook.

Especially valuable at early stages of research are bibliographic works, many of which provide abstracts summarizing significant articles or books on a topic. Look for annotated bibliographies or annual literature reviews that sum up recent books or articles because these often offer promising leads for your research.

Explore Online Databases. What sets libraries apart from the publicly available internet are their subscriptions to indexes and databases. After books, these are arguably a library's most valuable assets, since they give researchers access to materials they could not obtain otherwise. Each library's subscriptions will differ, with major research libraries offering the most comprehensive access to specialized indexes

and databases. However, every academic library and many public libraries offer a powerful set of online tools that greatly extend their actual collections. You will certainly want to make use of these general and specialized resources in your research. At least become familiar with the major databases to which your library subscribes, such as JSTOR, Academic Search Premier, MLA International Bibliography, or PubMed. Many academic databases either provide abstracts or direct you to articles that include abstracts. Looking at these can help you decide if an article itself is worth reading. Some databases allow you to access full-text articles and even books. But be aware: if your library does not subscribe to a particular journal included in a database, you might be asked to pay a fee to access a full-text article. Before doing so, *always* speak with a librarian about other means of access.

3.2.2 Finding Specific Sources

Having considered your search strategies and resources, you are now in a position to look for specific sources in and beyond the library. Of course, this process is not strictly linear. A single source can lead to others and return you to catalogs and databases you have already visited, only this time with new search terms. Novice researchers often rely too heavily on only a few terms or on terms that prove to be too broad (or narrow) to call up relevant sources. Successful researchers know they have to be flexible: searches typically involve trial and error to discover those terms that will yield the most relevant sources.

Search Your Library Catalog. In your research, you will probably need to use your library's catalog in two complementary ways: keyword searching and browsing. When you have examined some sources to identify a list of *keywords* associated with your topic, you are ready to use these terms to search the catalog. In most libraries, you must choose the category (books, articles, journals, etc.) you wish to use for your search.

If your sources include books, you can use Library of Congress subject headings, found either on the back of a book's title page or on its "details" page in the online

catalog, to search for related materials. On the back of this book's title page are the terms

> Research—Methodology. | Technical writing.

If you search an online catalog for those terms, you will find other books on those subjects. A book may be cross-listed under multiple subject headings. In that case, take a quick look at the titles listed under those headings as well. You may find useful sources you would have missed otherwise. You can also *browse* the catalog for books with similar *call numbers*. Once you identify a book that seems on target, use its call number to find others shelved along with it. Look for the browse link in your book's catalog entry. This list will be less focused than a keyword list, but it may contain unexpected gems. So don't restrict yourself to books nearest your target. Invest the time to browse widely.

The problem with any online search is that it may produce an overwhelming number of titles. The University of Chicago library has hundreds of books on Napoleon and thousands with the word *environment* in their titles. If your search turns up too many sources, narrow it down. Today's online catalogs let you limit searches in many ways: by date of publication, language, subject, resource type (books, articles, databases, etc.), and possibly others depending on the catalog. If you can't decide how to narrow your search, start with the date of publication. Restrict it to those sources published in the last fifteen years; if that still turns up too many, cut to the last ten years.

After you search the Library of Congress or a large university catalog, you may discover that your library holds only a fraction of what you found. But your library can likely help you borrow what you need through a service such as interlibrary loan. If your library cannot get you something, or cannot get it to you in time for it to be useful, then you might consider buying it.

On the other hand, if you find nothing, your topic may be too narrow or too far off the beaten track to yield quick results. But you could also be on to an important question that nobody else has thought about, at least not for a while. For example, "friendship" was once an important topic for philosophers, but it was then long ignored

by major encyclopedias. Recently, though, it has reemerged as a topic of serious research. Chances are you'll make something of a neglected topic only through your own hard thinking. In the long run, that research might make you famous, but it probably won't work for a paper due in a few weeks.

Browse the Stacks. Doing research online is faster than on foot, but if you never go into the stacks of your library (assuming you are allowed to), you may miss crucial sources that you will find only there. More important, you'll miss the benefits of serendipity—a chance encounter with a valuable source that occurs only when a title happens to catch your eye. (All of us have found important sources in this way.)

If you can get into the stacks, find the shelf with books on your topic, then scan the titles on that shelf, then on the ones above, below, and on either side, especially for books with new bindings published by university presses. Then turn around and skim titles behind you; you never know. When examining a promising scholarly book, skim its table of contents and index for keywords related to your question. Then skim its bibliography for other titles that look relevant. You can do all that faster with a book in your hand than you can online. (See 3.4 for more on systematic skimming.)

You can check tables of contents for most journals online, but browsing among shelved journals can be more productive. Once you identify promising journals online or in bibliographies, find them on the shelf. Skim the bound volumes for the last ten years (most have an annual table of contents in front). Then take a quick look at journals shelved nearby. You will be surprised how often you find a relevant article that you would have missed online.

If you can't browse your stacks in person, you might be able to browse them virtually. While virtual browsing is no substitute for holding a book in your hands and flipping through its pages, or for running your finger along a shelf to see what you find, it still allows you to experience some of the serendipity of in-person browsing. In fact, you should always browse them both ways because you can only find electronic sources

like online journals and ebooks in your library's online catalog. Most library catalogs allow you to scroll through their holdings sequentially by call number. If you don't know how to search that way, ask a librarian.

Follow Bibliographic Trails. Most sources will give you trailheads for bibliographic searches. When you find a scholarly source that seems useful, skim its bibliography or works cited for other promising sources. If that source is a book, check its index. Generally, the more extensive a figure's treatment, the more important that figure is. Journal articles usually begin with a review of previous research, all cited. By following this bibliographic trail, you can navigate the most difficult research territory because one source always leads to others, which lead to others, which lead to . . . But remember that following bibliographic trails is a retrospective exercise—it will lead you to sources other researchers *thought* were important when they were writing, and those sources may or may not be as important today. It can also perpetuate a particular kind of bias, in which sources cited in the past continue to be cited, to the exclusion of other voices.

Use Citation Indexing. Many online catalogs and databases let you look up other sources that cite one that you already know. This technique, called citation indexing, is like following a bibliographic trail, but forward rather than backward. Instead of searching for sources that a given source cites, *backward* citation, you can search for sources that cite a given source, or *forward* citation. To do this kind of research, researchers used to have to consult printed citation indexes, a process that could take hours or even days. But today's online catalogs and databases make it easy. Generally, the more a given source is cited, the greater its reputation and impact. Again, be careful: occasionally, sources are cited frequently because they are so *bad* or because they represent ideas that once were prominent but have been debunked.

A source's credibility can thus be gauged both by the sources it cites and by the sources that cite *it*. By following bibliographic trails and using citation indexing in tandem, you can build up a rich network of sources to support your own research.

3.3 Locating Sources Online

You already know how to search the publicly available internet: type a few words into the search bar of your browser and pages of links—delivered as URLs, or uniform resource locators—appear on your screen. Your practical experience with such everyday research might lead you to regard the internet as comprehensive and reliable. But that would be a mistake. Again, remember that your library's catalogs and databases will allow you to access a great deal of information that you cannot get through Google (or even Google Scholar).

When using the internet for research, maintain a healthy skepticism: much of what we find through Google, other search engines, or generative AI is reliable, but not everything is. In contrast to your library's catalogs and databases, the internet is essentially unmonitored. There is no one to vouch for the credibility of materials and content posted to, and sent from, countless websites. And finally, keep in mind that companies offering free search engines make their money by acquiring data about you through your online behavior and by selling advertising, and that webmasters routinely modify their sites to make them appear higher in search results. These practices are not necessarily nefarious, but you should remember that search engine companies and websites themselves have an interest in where you go and what you see online.

But if you keep these limitations in mind, using the internet can be a valuable component of your research plan. Here are some ways in which we use the internet in our own research:

- To get our bearings with respect to a new topic—regarding everything we learn at this stage as provisional.
- To explore potential keywords to use in a more systematic search.
- To remind ourselves of dates or facts—again remembering to check these against more reliable sources.

- To locate the authors of sources whom we might wish to contact: profiles of many scholars and researchers are available on college and university websites.
- To get a "ballpark" sense of what we are likely to find through a search of specialized databases by a quick search using Google Scholar.

Publicly available general tertiary sources such as Wikipedia and specialized ones such as the Internet Encyclopedia of Philosophy for philosophy, Sociosite for sociology, and the Victorian Web for Victorian studies are often quite reliable. But you should still view them skeptically. In general, don't treat online articles (aside from those in scholarly journals) as secondary sources, as these depend for their credibility on the checks inherent in the academic publishing system, especially that of peer review. You can, however, use the internet freely as a primary source. For example, if you study how soap opera story lines respond to their fans' reactions, fan blogs would be fine primary sources. (We discuss evaluating sources in the next section.)

Respecting Authors' Rights. Sites such as Project Gutenberg and Google Books can provide reliable online copies of older texts no longer in copyright. But postings of more recent texts (in the United States, those published within the past ninety-five years) may violate the author's copyright. You should avoid relying on unauthorized copies—not only because those copies are illegal but also because they are often inaccurately reproduced.

3.4 Evaluating Sources for Relevance and Reliability

When you start looking for sources, you will probably find more than you can use, so you must quickly evaluate their usefulness. To do so, use two criteria: relevance and reliability.

3.4.1 Evaluating Sources for Relevance

If your source is a book or an ebook, do this:

- Skim its index for your keywords, then skim the pages on which those words occur. If the source is an ebook, you can search the whole text for your keywords.
- Skim the first and last paragraphs in chapters that use a lot of your keywords.
- Skim prologues, introductions, summary chapters, and so on.
- Skim the last chapter, especially the first and last two or three pages.
- If the source is a collection of articles, skim the editor's introduction.
- Check the bibliography for titles relevant to your topic.

If your source is an online or print journal article, do this:

- Read the abstract, if it has one.
- If the article is online, search the text for your keywords.
- Skim the introduction and conclusion, or if they are not marked off by headings, skim the first six or seven paragraphs and the last four or five.
- Skim for section headings, and read the first and last paragraphs of those sections.
- Check the bibliography for titles relevant to your topic.

If your source is another type of online material, do this:

- If it looks like a printed article, follow the steps for a journal article, and also search for your keywords.
- Skim sections labeled "introduction," "overview," "summary," or the like. If there are none, look for a link labeled "About the Site" or something similar.
- If the site has a link labeled "Site Map" or "Index," check it for your keywords and skim the referenced pages.
- If the site has a "search" resource, type in your keywords.

This kind of speedy reading can guide your own writing and revision. If you do not structure your paper so your readers can skim it quickly and see the outlines of your argument, your paper has a problem, an issue we discuss in chapters 10 and 11.

3.4.2 Evaluating Sources for Reliability

You need to develop a feel for the reliability of your sources. This is something that comes with experience and practice and from cultivating a certain degree of skepticism about the accuracy of and motivations behind the claims sources make. It's usually safe to rely on the institutions that exist to support authentic research, such as universities, university presses, academic journals, and some independent research foundations. But those institutions themselves can also be limited in what they allow into the conversation: they may perhaps exclude new ideas that conflict with more established ones or that come from people with diverse insights, backgrounds, and experiences. So you must also exercise your own judgment, and you can always discuss your concerns about specific sources with a teacher, mentor, or librarian.

Here are some signs of reliability:

1. **Is the source published in print or online by a reputable press?** Most university presses and the books and journals they publish are reliable, especially if you recognize the name of the university. Some commercial presses, which are presses not associated with a university, are reliable in some fields, such as Norton in literature, Elsevier in the sciences, or West in law. Be skeptical of commercial and especially self-published books that make sensational claims, especially about hotly contested issues. Even if authors have "PhD" after their names, their scholarship may still not be trustworthy (it's a matter of ethos; see 5.6). Be especially skeptical of organizations, such as lobbying or trade organizations, that adopt the trappings of academic institutions but are not.

2. **Was the book or article peer-reviewed?** Most reputable presses and journals ask experts to review a book or article for accuracy and soundness of content before it is published; this is called peer review. Essay collections published by university presses are often but not always peer-reviewed; sometimes they are reviewed only by the named editor or editors. Few commercial presses or magazines use peer review. If a publication hasn't been peer-reviewed, be cautious.
3. **Is the author a reputable scholar?** This is hard to answer if you are new to a field. Most publications cite an author's academic credentials; you can find more with a search engine. Most established scholars are reliable, but even reputable scholars can have axes to grind, especially if their research is financially supported by a special interest group. Use a search engine to check out who authors thank, including foundations that supported their work.
4. **If the source is a public website, is it sponsored by a reputable organization?** A website is only as reliable as its sponsor. You can usually trust one that is sponsored and maintained by a reputable organization. If you are unfamiliar with a website's sponsor, do a search to find out more about it. But be aware that some organizations adopt names that seem objective as cover for partisan advocacy. For example, in the twentieth century, cigarette manufacturers created the Tobacco Institute, later renamed the Council for Tobacco Research, whose mission was not to engage in authentic research on tobacco but to counter it. Some sites supported by individuals are reliable, but since anyone with certain skills can create web content, many (perhaps most) are not.
5. **Is the source current?** You must use up-to-date sources, but what counts as current depends on the field. In computer science, a journal article can be out-of-date in months; in the social sciences, ten years pushes the limit. Publications have a longer shelf life in the humanities: literary or art criticism, for example, can remain relevant for decades. In general, a source that sets out a major position or theory that other researchers accept will stay current

longer than those that respond to or develop it. Assume that most textbooks are *not* current. If you are unsure whether a source will be considered current, take your lead from the practice of established researchers in the field. Look at the dates of articles in the works cited lists of a few recent books or articles in the field: a good rule of thumb is that you can cite works as old as the older ones in that list (but to be safe, perhaps not as old as the oldest). Try to find a standard edition of primary works such as novels, plays, letters, and so on—it is usually not the most recent. Be sure that you consult the most recent edition of a secondary or tertiary source: researchers often change their views, even rejecting ones they espoused in earlier editions. And if an online source has not been updated recently, it may have been abandoned and may no longer be reliable.

6. **If the source is a book or article, does it have notes and/or a bibliography?** If not, be suspicious, because you have no way to follow up on anything that the source claims.
7. **If the source is a public website, does it include bibliographic data?** You cannot judge the reliability of a site that does not indicate who sponsors and maintains it, who wrote what's posted there, and when it was posted or last updated.
8. **If the source is a public website, does it approach its topic judiciously?** Authentic research presumes a willingness to consider ideas other than one's own (see chapter 9). So be wary of websites (like sources in general) that make wild claims, use abusive language, or attack those who hold alternative views.
9. **Does the source display a basic level of editorial care?** Any source might include an occasional typo, but if you find yourself noticing errors of spelling, punctuation, and grammar that suggest carelessness, be wary. That carelessness might extend to the content as well. For example, if a source includes obvious factual errors, distrust it.
10. **If the source is a book, has it been well reviewed?** Many fields have indexes to published reviews that tell you how others have evaluated a source.

11. **Has the source been frequently cited by others?** You can roughly estimate how influential a source has been by how often others cite it. Citation indexing makes this easy to do (see 3.2.2). If you find that a source is cited repeatedly, you can infer that experts in the field regard it as reliable and significant. Such sources are said to have a high "impact factor." You should keep an eye out for such sources and use them to orient yourself in your field of research. But just because a source hasn't been cited often doesn't mean it's unreliable. Sometimes experts overlook or discount the perspectives of younger scholars or those from marginalized backgrounds, but if their work meets the other criteria described here and it is relevant to your research, you should certainly consult and cite it yourself.

These indicators do not guarantee reliability. Reviewers, while experts, are people too. They might misjudge a work or miss shortcomings that others, after publication, discover. So don't assume that you can read uncritically just because a source is written by a reputable researcher and published by a reputable press.

3.5 Looking Beyond Predictable Sources

For a class paper, you'll probably use the sources typical in the field. But if you are doing an advanced project, a master's thesis, or a doctoral dissertation, search beyond them. If, for example, your project is on the economic effects of agricultural changes in late sixteenth-century England, you might read Elizabethan plays involving country characters, look at wood prints of agricultural life, or find commentary by religious figures on rural social behavior. Conversely, if you are working on visual representations of daily life in eighteenth-century London, you might research the economic history of that time and place. When you look beyond the *kinds* of sources considered standard for your field or topic, you enrich not only your analysis but your range of intellectual reference and your ability to synthesize diverse kinds of data, a

crucial competence of an inquiring mind. Don't ignore a work on your topic that is not mentioned in the bibliographies of your most relevant sources—you will get credit for originality if you turn up a good source that others have missed.

3.6 Using People to Further Your Research

One of the paradoxes of twenty-first-century research is that even as new technologies allow us to access an unprecedented wealth of materials with ease, research has also become more personal. So as you undertake your project, don't forget about the human element.

When Someone Gets There First

Don't panic if you find a source that seems to pose and solve your research problem. You may be right, but probably not. If the source does in fact solve your *exact* problem, you have to formulate a new one. But your source's problem or its solution is likely not as close to yours as first feared. In this case, use proximity to your advantage by acknowledging the strength of your source's claim and noting where and how your claim differs. Indeed, this is precisely the kind of dialogue that makes research a conversation.

Most obviously, people can be sources of primary data, collected through observation, surveys, or interviews. Be creative when using people for primary research: don't ignore people in local business, government, or civic organizations. For example, if you are researching the social and economic effects of redlining in your town, you might go beyond the documents to ask longtime residents whether they have any memories or stories to share. We can't explain the complexities of interviewing here (there are many guides to that process), but remember that the more thoroughly you plan what you want to ask, the more efficiently you will get what you need. You don't necessarily need to ask an interviewee a fixed list of questions—in fact, that can be a bad idea if it makes the interviewee freeze up. But prepare so that

you don't question your source aimlessly. You can always reread a book for what you missed, but you can't keep going back to people because you didn't prepare well enough to get what you needed the first time.

People can also lead you to good secondary sources or serve as such sources themselves. We already encouraged you to discuss your research with one kind of expert: a reference librarian. Librarians are experts on the processes of library research. You can also benefit from talking directly with experts on your topic. Ask them about the important open questions in the field. Ask them what they think of your project or provisional thesis. Ask them to suggest secondary sources for you to read. This kind of personal guidance can be invaluable to a beginning researcher, and many experts will be happy to talk with you (or at least engage in a little email correspondence).

All of us have made these kinds of queries with great success in our own research, and all of us have responded to them in turn, by helping those who have contacted us. One of us once invited an eminent scholar to talk about his research process to a group of first-year college students. He began his talk by saying, "I don't really have a research process; I just ask my smart friends what I should read." This scholar was being at least a bit tongue-in-cheek, but we could all do worse than to rely on such smart friends, at least to get us started.

Finally, when you use people in research, be sure to do so ethically (see chapter 17). Colleges and universities have become increasingly aware that research using people may harm them—not just physically but by embarrassing them, violating their privacy, and so on. Every college and university now has guidelines for the responsible conduct of research directly or indirectly involving people, as well as a committee that reviews all such projects, whether done by students or professional researchers. These safeguards exist for good reason: because people, especially the most vulnerable, have been grievously harmed by researchers who believed their work so important that it justified disregard for, or even abuse of, the people and communities they studied. So don't dismiss these important checks as so much bureaucratic make-work. They are in place to protect you, your institution, and, most important, those you study.

▶ Quick Tip: Using Generative Artificial Intelligence

In late 2022, a new kind of "source," a generative artificial intelligence (AI) tool able to respond to questions and prompts with passages of cogent text, became publicly available for free online. This technology will almost certainly revolutionize much about our lives, including how we research, argue, and communicate (the specific concerns of this book). We can't tell you what specific changes are coming (although we have our speculations), but we can offer you some general principles that will help you use generative AI productively and ethically.

Explore: Every new technology is accompanied by new *affordances*, that is, things it allows you to do that you could not do as easily, or at all, before. Generative AI is no exception: we have a sense of its marvelous potential, but we don't yet know all that it can do. So play around with it. Put it through its paces. Ask it questions about your research project or to come up with research questions of its own, and see what it produces. Use it to prod your thinking, to generate information, to recommend additional sources, even to create text that you might revise as part of a paper. You won't know how it can help you until you try.

Communicate: Just as we don't yet know all the affordances of generative AI, we don't yet have agreed-upon standards for how and when it can be used appropriately in research and writing. If you are a student, discuss that question with your teachers and advisers. Know your school's policies. If you are a researcher, talk with other members of your research community. Learn what practices are endorsed by your field's professional associations or leading journals. And share your own thoughts and suggestions.

Be honest: Just as we'll continue to discover new legitimate uses for generative AI, so there are some who will continue to invent new ways to use it to cheat. Don't use generative AI to falsify data, solve problems you are supposed to solve without such assistance, draft text that you pass off as your own, and so on. Remember that your

reputation and integrity are among your greatest assets, as a researcher and writer and as a person. A good rule of thumb is this: if you would feel uncomfortable telling a teacher, mentor, or journal editor how you used generative AI, don't use it in that way.

Be critical: Generative AI is in its infancy, and it will get better and better. But right now, its results are not always reliable. We ourselves, and other researchers and scholars we know and trust, have tested it by asking it questions related to our own areas of expertise. We've found that it can produce useful information and insights but that it can also offer false facts, misattribute quotations, even make up references. So be careful: understand that generative AI is powerful but fallible, and confirm your results using other methods.

Be transparent: Let your audience (whether a teacher or other researchers) know exactly how you used generative AI in your research and writing. We suggest—at least until there are established conventions governing the matter—that when presenting your research orally or in writing, you acknowledge how and to what extent you used generative AI, just as you would acknowledge any other source. If you are writing a paper, include a statement on your works cited page or in your bibliography. If you are delivering a presentation, consider giving a brief acknowledgment at its beginning or end.

4 Engaging Sources

To make your research reliable, you must use your sources fairly and accurately. In this chapter, we explain how to engage your sources productively and how to take notes so that they further your thinking and so that your audience can trust you when you rely on or critique a source.

In this chapter, we show you how to get the most out of your sources, especially your secondary sources. We have chosen this focus for a simple reason: it's a topic on which we can offer useful, general advice. The ways that researchers find or create their data, and the kinds of data audiences expect as evidence, vary wildly from field to field. Historians and literary critics typically mine primary sources for evidence. Other researchers, however, don't use primary sources at all. Depending on their fields, they might analyze soil samples in a lab, administer a survey, or build a computer model to conduct simulations. But every field has its body of secondary sources, sometimes called its *literature*. Researchers in all fields engage these sources in similar ways.

How you use your secondary sources depends on where you stand in your search for a project. Experienced researchers read secondary sources regularly to keep up with work in their fields, and so they usually begin their projects with a question or problem in mind. But if you are new to a subject or have only a topic, you may have to read a lot of sources to find a problem to pursue and then even more to figure out how to solve it. In this chapter, we show you how to read secondary sources as experienced researchers do: not just for data you can use in your own argument but more importantly for questions, problems, and arguments that spur your own thinking.

4.1 Recording Complete Bibliographic Information

First things first: once you decide a source is worth reading, record *all* of its bibliographic information. Do this before you do anything else—it only takes a moment, and we promise that no habit will serve you better for the rest of your career.

You need the bibliographic information for your sources not only so that you can recall what you have read, but also so that you can credit your sources when you write. In your own notes, you can record bibliographic data in whatever format you like—so long as your records are complete; when you cite sources in your writing, you should follow the citation style of your field (see 12.8). Most libraries and database interfaces let you export citations in the format of your choice with a few clicks.

For print books, record

- author(s)
- title (including subtitle)
- editor(s) and translator(s) (if any)
- edition (if not the first)
- volume number (if any)
- publisher
- year published
- page numbers of chapters consulted
- library call number (if any)
- ISBN

For ebooks, record everything you would record for a print book plus

- URL (if any)
- name of database (if any)
- date of access (if consulted online)
- electronic format of the book

For print journal articles, record

- author(s)
- title (including subtitle) of article
- title of journal
- volume and issue number
- date
- page numbers of article
- library call number (if any)

For online journal articles and other types of online sources, record as much of the above as applies. Also record

- URL or, if the source has one, its digital object identifier (DOI), a stable code unique to that source (often presented as a URL beginning with https://doi.org/)
- name of database (if any)
- owner or sponsor of the site
- date of access

If you access a printed text online, record bibliographic data from the original printing as well as your source of online access.

If you scan or photocopy a passage from a book, also scan or photocopy its title page and the bibliographic information on the reverse side. Then add the library call number if you know it. You won't need to include the call number when you cite the source, but having it will allow you to find the source again easily if you need it.

You may think this advice is overly cautious, but it isn't. Nothing is more frustrating than having the perfect quotation or bit of data in your notes and being unable to use it in your writing or presentation because you didn't completely document your source and can't find it again.

4.2 Engaging Sources Actively

Taking notes is not just about recording and accumulating sources and data; it's also about processing and understanding them. In fact, this second purpose is the more important one. Today, with access to the internet and the databases in a research library, you can summon an infinitude of sources to your screen instantaneously. This applies not just to secondary sources but also to primary ones. (See the anecdote about Williams on the next page: if he were writing today, he'd quite likely find that the list of renters had been digitized and made available to researchers worldwide.)

Wrong Place

Williams once had to withhold a publication on Elizabethan social history for more than a year because he failed to document a source fully. Years earlier he had come across some data—a list of renters in London in 1638—he thought he would someday find useful. But he had failed to record complete information on his source, so when that day came, he could not use its data. He searched the library at the University of Chicago for hours, until one night he sat up in bed, realizing that the source was in a different library!

Experienced researchers know that just recording a source in a spreadsheet or having it open in a browser tab doesn't mean that they have understood it or that it has benefited their own thinking. They don't read passively; they engage their sources actively, entering into conversation with them. If you can, read important sources twice. First, read generously. Pay attention to what sparks your interest. Reread passages that puzzle or confuse you. Don't look for disagreements right away, but read in ways that help the source make sense. Otherwise, you'll be tempted to emphasize its weaknesses if it presents an argument that rivals yours. Resist that temptation, at least at first.

Then, if your source seems important or seems to challenge your own position, read it a second time slowly and more critically. When you read a passage, think not only about what it says but about how you would respond. Record those responses in your notes or—if you own the source or are working from a copy—in the margins of the source itself. Test your understanding by summarizing: if you can't sum up a passage in your mind, you don't understand it well enough to disagree.

Don't accept a claim just because an authority asserts it. That assertion may be wrong or, depending on the date of the source, obsolete. For example, an older source might refer to the nine planets of our solar system, but today that would be incorrect, since in 2006 Pluto was demoted to a "dwarf planet." And understand that experts frequently disagree. If expert A says one thing, B will assert something else, and C will claim to be an expert but not actually be one. When some students hear experts disagree, they become cynical and dismiss expert knowledge as just opinion. But don't mistake informed and thoughtful debate over legitimately contested issues for mere opinion. In fact, it's the mark of an active field.

Check—and Check Again

Researchers rarely misrepresent sources deliberately, but they are occasionally careless or intellectually lazy. Colomb heard a prominent researcher confess after her talk that she had never read the work she had just discussed. One of Booth's books was "refuted" by a critic who apparently read only the title of a section, "Novels Must Be Realistic." Failing to read beyond it, he didn't know that Booth himself was attacking the claim in the title, along with other misconceptions about fiction. One reviewer of a book by Williams misquoted him and then, thinking he was disagreeing with him, argued for the point Williams made in the first place!

If you are an advanced researcher, check the accuracy of everything important to your argument. Researchers whose work has been used by others will tell you, as often as not, that it was reported inaccurately, summarized carelessly, or criticized ignorantly. Writers regularly write to the *New York Review of Books* and the "Book

Review" of the *New York Times*, pointing out how reviewers distorted their ideas or made factual errors criticizing them.

4.3 Reading for a Problem

Once you have a research problem, use it to guide your search for evidence, models, and arguments to respond to. But if you don't yet have one, you won't know which data, models, or arguments might be relevant. So read sources not randomly but deliberately to find a problem. Look for claims that seem puzzling, inaccurate, or simplistic—anything you can disagree with. You're more likely to find a research problem when you disagree with a source, but you can also find one in sources you agree with.

4.3.1 Look for Creative Agreement

If you believe what a source claims, try to extend that claim: What new cases might it cover? What new insights can it provide? Is there confirming evidence the source hasn't considered? Here are some ways to find a problem through creative agreement.

1. **Offer additional support.** You can offer new evidence to support a source's claim.

    Smith uses anecdotes to show that Rosie the Riveter resurfaced as a feminist symbol in the 1980s, but images from magazines offer better documentary evidence.

    # Source supports a claim with old evidence, but you offer new evidence.
    # Source supports a claim with weak evidence, but you offer stronger evidence.

2. **Confirm unsupported claims.** You can prove something that a source only assumes or speculates about.

Smith recommends visualization to improve sports performance, but fMRI studies of the mental activities of athletes offer evidence that shows why that is good advice.

Source speculates _____ might be true, but you offer evidence to show that it is.
Source assumes _____ is true, but you can prove it.

3. **Apply a claim more widely.** You can extend a position.

Smith argues that medical students learn physiological processes better when they are explained with many metaphors rather than with just one. The same seems true for engineering and law students.

Source correctly applies _____ to one situation, but you apply it to new ones.
Source claims that _____ is true in a specific situation, but you show it's true in general.

4.3.2 Look for Creative Disagreement

If you read actively, you'll inevitably find yourself disagreeing with your sources. Don't brush those disagreements aside, because they often point to new research problems. Look for these types (the list is not exhaustive, and some kinds overlap):

1. **Disagreements about classification or definition.** A source says something is one kind of thing, but it is another.

Smith says that graffiti is merely vandalism, but it is better understood as a form of public art.

Source claims that _____ is a kind of _____, but it's not.

Source claims that _____ always has _____ as one of its features or qualities, but it doesn't.
Source claims that _____ is normal/good/significant/useful /moral/interesting, but it's not.

You can reverse those claims and the ones that follow to state the opposite:

- Though a source says _____ is *not* a kind of _____, I can show that it is.

2. **Disagreements about parts and wholes.** You can show that a source mistakes how the parts of something are related.

Smith has argued that coding is irrelevant to a liberal education, but, in fact, it is essential.

Source claims that _____ is a part of _____, but it's not.
Source claims that one part of _____ relates to another in a certain way, but it doesn't.
Source claims that every _____ has _____ as one of its parts, but it doesn't.

3. **Disagreements about history or development.** You can show that a source mistakes the origin or development of a topic.

Smith argues that tragedy developed from religious ritual, but it didn't.

Source claims that _____ is changing, but it's not.
Source claims that _____ originated in _____, but it didn't.
Source claims that _____ developed in a certain way, but it didn' t.

4. **Disagreements about cause and effect.** You can show that a source mistakes a causal relationship. Be especially alert to confusions of *causation* (A results in B) with *correlation* (A occurs simultaneously with B).

   Smith claims that school voucher programs don't decrease funding to public schools, but evidence from three school districts that tried such programs suggests that they do.

   # Source claims that _____ causes _____, but it doesn't /they are both caused by _____.
   # Source claims that _____ is sufficient to cause _____, but it's not.
   # Source claims that _____ causes only _____, but it also causes _____.

5. **Disagreements of perspective.** Most disagreements do not change a conceptual framework, but when you oppose a "standard" view of things, you urge others to think in a new way.

   Smith assumes that advertising has only an economic function, but it also serves as a laboratory for new art forms.

   # Source discusses _____ from the point of view of _____, but a new context or point of view reveals a new truth [the new or old context can be social, political, philosophical, historical, economic, ethical, gender specific, etc.].
   # Source analyzes _____ using theory/value system _____, but you can analyze it from a new point of view and see it in a new way.

4.4 Reading for Arguments

Experienced researchers also read to improve their own arguments by accounting for the opposing views of others and by being open to arguments of others as models of reasoning and analysis.

4.4.1 Read for Arguments to Respond To

No argument is complete until it acknowledges and responds to its audience's predictable questions and disagreements. You can find some of those competing views in secondary sources. What alternatives to your claims do they offer? What evidence do they cite that you must acknowledge? Some new researchers think that they weaken their case if they mention any views opposing their own. The opposite is true. When you acknowledge the views of others, you show that you not only know those views, but have carefully considered and can confidently respond to them (for more on this, see chapter 9).

Experienced researchers also use those competing views to improve their own. You can't really understand what you think until you understand why a rational person might think differently. So as you look for sources, don't look just for those that support your claims. Be alert for sources that challenge them. If those sources are well known to your audience, you increase your credibility as a researcher by engaging them. If they are not, you do a valuable service to your research community by bringing new voices and perspectives into the conversation.

4.4.2 Read for Models of Reasoning and Analysis

You can use secondary sources in another way as well: as models of reasoning and analysis. If you have never made an argument like the one you plan to, you might follow the pattern of other arguments that you find in your secondary sources. You can' t use specific ideas (that would be plagiarism), but you do not plagiarize a source when you borrow its ways of arguing or of analyzing data. Don't worry that using a source as

a model will make your research seem unoriginal. Research arguments are often unoriginal in their methods and ways of reasoning. Readers will look for originality in your problem, claim, and evidence.

Suppose you want to argue that the American story of the first Thanksgiving thrived because it served the political interests of those who created it and contributed to it over time and because it satisfied the emotional needs of those who repeated it. You will need reasons and evidence unique to your claim, but you can raise the *kinds* of issues that are in similar arguments about other legends, real or fictional. If, for example, a source shows how the King Arthur legend helped to shape English society and politics, you might make a similar argument about Thanksgiving and the United States. You are not obliged to cite your model, but to gain credibility, you might note that it makes an argument similar to yours:

> Just as the Arthurian legends helped to forge a definitively English social and political identity (Weiman 2019), so the story of the first Thanksgiving . . .

4.5 Reading for Data and Support

You can use secondary sources to locate data to use as evidence and to support your argument.

4.5.1 Read for Data to Use as Evidence

Beginning researchers regularly mine secondary sources for data, but if you can, check the primary source. If, for example, an important quotation is available in its original form and context, it's a risky intellectual shortcut not to look it up. You don't have to agree with a source to use its data; in fact, its argument does not even have to be relevant to your question, so long as its data are. However, use statistical data only if you can judge for yourself whether they were collected and analyzed appropriately.

But a word of caution: *Always* cite the source you consult. Some beginning researchers think that when they use data reported in a secondary source, they should

cite the original, primary source (and some think the opposite). But they are only half right in both cases. If you cite just the primary source, you imply that you consulted that source yourself. If you cite just the secondary source, you imply it is the ultimate source of your data. Instead, you should cite *both* sources. For example, if you use a secondary source written by Anderson for primary data in an article by Wong, your citation (in APA style) would look like this: (Wong, 1989, p. 45; quoted in Anderson, 2015, p. 19).

A function of citations is to allow readers to retrace your steps, should they want to do so. In some disciplines, especially in the sciences, research publications include links as well as or even instead of conventional citations. Some teachers also accept or even prefer links instead of citations because those links allow them to review their students' sources easily and efficiently. If you are considering using links instead of or in addition to citations, check the conventions of your field or with your teacher.

4.5.2 Read for Claims to Use as Support

Researchers often use the results they find in secondary sources to bolster their own arguments. If you find a useful claim, you can cite it to support your own, especially if it has been well supported and widely accepted. But many claims show nothing more than that another researcher agrees with you. To use such claims as evidence, you have to report not only the conclusion of the source but its reasoning and supporting evidence as well. In other words, you have to give *your* audience the opportunity to judge for themselves the relevance and the reliability of the evidence you choose to use from others.

4.6 Taking Notes Systematically

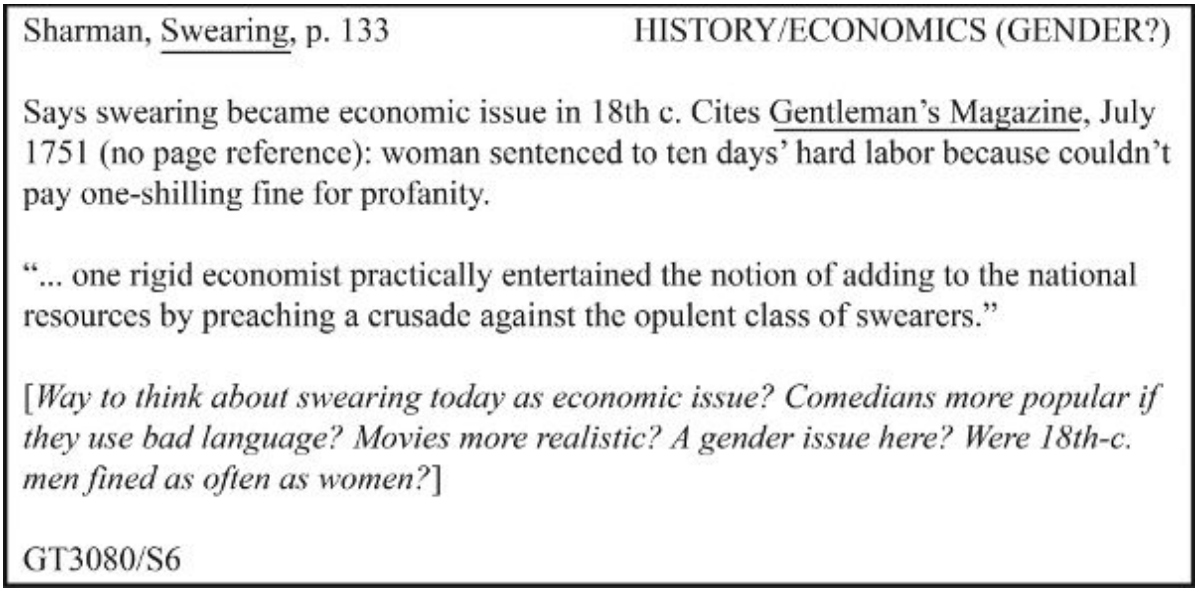
Once you find a source that you think you can use, you must read it carefully and purposefully. But that will do you little good if you can't locate it later or remember it well enough to use. So again, before you do anything else, record the source's full bibliographic information. Then take notes in a way that will help you not only to

remember and use what you have read but also to further your own thinking. Careful, systematic note-taking will also protect you from inadvertent plagiarism (see chapters 12 and 17).

You can take notes electronically, for example, by downloading and annotating PDFs or by bookmarking useful websites. You can also take notes by hand, manually typing them into your computer, tablet, or phone, or even writing them out on index cards or in a notebook. Similarly, you can organize your notes using an online reference-management system, a spreadsheet, a folder on your computer, or even a shoebox. Each of these approaches has its advantages and disadvantages. You need to understand them and pick the approach that will work best for you.

4.6.1 Taking Notes on Paper

Years ago, the standard way to take notes on sources was to create a file of index cards:



Sharman, Swearing, p. 133 HISTORY/ECONOMICS (GENDER?)

Says swearing became economic issue in 18th c. Cites Gentleman's Magazine, July 1751 (no page reference): woman sentenced to ten days' hard labor because couldn't pay one-shilling fine for profanity.

"... one rigid economist practically entertained the notion of adding to the national resources by preaching a crusade against the opulent class of swearers."

[*Way to think about swearing today as economic issue? Comedians more popular if they use bad language? Movies more realistic? A gender issue here? Were 18th-c. men fined as often as women?*]

GT3080/S6

At the top left is the author, short title, and page number(s). At the top right are keywords that let the researcher sort and re-sort notes into different categories and orders. The body of the card summarizes the source, records a direct quotation (where appropriate), and includes the researcher's questions and responses. A card like this may seem old-fashioned, but it provides a template for efficient note-taking:

- Record complete bibliographic information for each source so that you can cite it properly and find it again easily.
- Separate notes on different topics, even if they come from the same source.
- Make sure your notes are accurate because you need to be able to rely on them later. If you want to quote more than a few lines, copy or save the passage or the whole document. Be alert for transcription errors: when hand-copying or typing out quotations, it is surprisingly easy to alter their wording, even when you think you are being careful. (This risk in transcription is tied to its benefit—when you actually write or type out a quotation, rather than just copying-and-pasting it, you have to think about it.)
- Record not only the source's claim but any data or support you find interesting.
- Note your agreements, disagreements, speculations, questions, and so on. Do you see any complications or contradictions in the source's argument? Did the source raise any questions? That will encourage you to do more than simply record the content of what you read.
- *Clearly* distinguish (1) what you quote from a source, (2) what you paraphrase or summarize from a source, and (3) your own thoughts. If you are writing on paper, use headings or brackets or different colors of ink to differentiate these different kinds of note. If you are using a computer or taking notes online, use different fonts or different colors of type. You must *unambiguously* distinguish your own words from those of your sources because it is so easy to confuse the two.

Why, you might wonder, would anyone bother with paper notes when they could just type their notes into a device? As cumbersome as paper notes can be to store, back up, index, and access, they still have their uses. For example, a notebook or pack of index cards is cheap and portable, and paper can sometimes go where technology cannot—some archives still require patrons to take notes with paper and pencil. The main reason some researchers continue to rely on paper notes is that they help with

thinking. Since you can't write out everything, using paper forces you to think about what is most important. Likewise, if your notes are on cards or sheets of paper, you can group them, shuffle them, or lay them out on a desk, a table, or even the floor. And the very act of *writing out* your notes can help you not only remember what is in them but also see connections and develop your own ideas.

Still, very few researchers today rely on paper notes alone. Most take notes electronically as well, thinking on paper but using electronic notes to ensure the accuracy of their quotations, references, and citations.

4.6.2 Taking Notes Electronically

When you take notes using a computer, tablet, phone, or other electronic device, you have several options:

- You can use a program like Word or Google Docs. Create a separate file (or at least a separate page) for each source, and be sure to unambiguously distinguish your own words from those of your source. Such programs are easy to use, but they also limit your ability to index, organize, sort, and search your notes. For long or complex projects especially, you may want to consider other options.
- You can use a dedicated note-taking application to create and organize your notes. Such applications can help you to index, sort, and access your notes, but since they sometimes use proprietary formats, they can sometimes make it difficult for you to export your notes or use them with other programs.
- You can use a full-featured citation-management system. In addition to helping you make your notes, these programs can often pull information directly from online library catalogs and databases, and they can format and update your citations and bibliographies when you write. Some will even store full electronic copies of your sources within the reference-management

system, helping you build and maintain your personal library of sources. But like note-taking applications, these systems sometimes use proprietary formats—and you have to learn to use them.

All three types of application are also available in web-based versions, meaning that the application and your notes reside not on your own computer but in the cloud. This protects your data from inadvertent loss or corruption and can help you share information and collaborate with other researchers.

But whatever technology you use, you have to consider some basic questions:

- How will you stay organized? For example, if you plan to create a separate document for each source, you then need a system for naming and storing your files. Without such a system, it is very easy to "lose" your notes on your computer or device.
- How will you use your notes? You may decide to store your notes differently for small projects and large ones, for discrete projects and ongoing ones, for individual projects and collaborative ones.
- What applications are available through your school or library? Many schools and libraries offer note-taking or reference-management systems to faculty, students, and patrons, sometimes integrating these tools with their catalogs. If you have access to such resources, consider using them.
- How will you back up your notes? However you decide to take and organize your notes, make sure you can recover them if something goes wrong: you spill coffee on your laptop, you lose your phone, your files are incompatible with the new version of your note-taking app, mice in your basement chew through your box of index cards. Our suggestion is that you store your notes in, or at least back them up to, the cloud. Backup software can do this for you automatically.
- Most important: What approach best suits your own ways of writing, thinking, and working? As you grow as a writer and researcher, you will develop ways of

working that are particular to you. Others may find them cumbersome or confusing or even incomprehensible. No matter. Remember that your goal is not to create an elaborate set of notes but to research and write capably and intelligently. If a piece of software doesn't help you do that, it isn't useful—to you.

4.6.3 Deciding Whether to Quote, Paraphrase, or Summarize

If you can photocopy, scan, download, or cut-and-paste your source, or you know that you can access it online when you write, you can focus less on preserving its exact words than on your own engagement with it. That's a great advantage. Summarize the source, which will also help you understand it, and note passages you may want to quote or paraphrase when you write. Note also your own responses to the source. Where did you find yourself agreeing with it? Disagreeing? Wanting to say, *Yes, but . . . ?*

If you can't preserve your entire source and don't know whether you will be able to access it later, you have a tougher choice: what parts of the source to record exactly (by transcribing them, cutting-and-pasting, taking a screenshot, or snapping a photo) and what parts to summarize or paraphrase. In this situation, you have to consider how you plan to use your notes later. Your field will affect your choices: When they write, researchers in the humanities quote most often; social and natural scientists usually paraphrase and summarize (see chapter 12).

- Summarize when you need only the point of a passage, section, or even a whole article or book. Summary is useful for context or views that are related but not specifically relevant to your research project. A summary of a source never serves as good evidence.
- Paraphrase when the specific words of a passage are less important than its meaning. Paraphrasing doesn't mean changing just a word or two. You must replace most of the words and phrasing of the original with your own. A paraphrase is never as good evidence as a direct quotation.
- Record exact quotations for these purposes:

—The quoted words are evidence that backs up your reasons. If, for example, you claim that different groups respond differently to renaming buildings named for enslavers, you would quote exact words from different news sources. You would paraphrase them if you needed only their general sentiments.

—The words are from an authority you plan to rely on or challenge.

—The words are strikingly original or so compelling that the quotation can frame the rest of your discussion.

—The source makes a claim that you disagree with, and to be fair you want to state that claim exactly.

Never abbreviate a quotation thinking you can accurately reconstruct it later. You can't. And if you misquote, you will undermine your credibility.

4.6.4 Getting the Context Right

You can't record *everything*, but you have to record *enough* to ensure that you accurately capture the source's meaning. As you use material from your sources, record not just what they say but how they use the information.

1. **When you quote, paraphrase, or summarize, be careful about context.** You cannot entirely avoid quoting out of context, because you cannot quote all of an original. So when you draft a paraphrase or summary or copy a quotation, do so within the context that matters most—that of your own grasp of the original. When you note an important argument or conclusion, record the author's line of reasoning:

    NOT: Bartolli (p. 123): The war was caused by Z.

    NOT: Bartolli (p. 123): The war was caused by X, Y, and Z.

BUT: Bartolli: The war was caused by X, Y, and Z (p. 123). But the most important cause was Z (p. 123), for two reasons: first, . . . (pp. 124–26); second, . . . (p. 126).

Even if you care only about a conclusion, you will use it more accurately if you record how an author reached it.

2. **When you record a claim, note its role in the original.** Is it a main point? A minor point? A qualification or concession? By noting these distinctions, you avoid this kind of mistake:

ORIGINAL BY JONES: "Researchers recognize that lung cancer has a number of causes, including genetic predisposition and exposure to environmental factors such as asbestos, radon, and fine particulates. But no one who has studied the data doubts that lung cancer's leading cause is smoking."

MISLEADING NOTE ABOUT JONES: Smoking is just one cause of lung cancer among many. Jones, for example, claims that "lung cancer has a number of causes, including genetic predisposition and exposure to environmental factors such as asbestos, radon, and fine particulates."

Jones did not make that point at all. She *conceded* a point to set up the point she wanted to make. Anyone who deliberately misreports in this way violates basic standards of truth. But you can make such a mistake inadvertently if you note only a source's words and not their role in an argument.

To avoid such mistakes, distinguish statements that are central to an argument from qualifications or concessions that the author acknowledges but downplays. Unless you are reading "against the grain" of the writer's intention—to expose hidden tendencies, for

example—do not report minor aspects of a source as though they were major or, worse, as if they were the source's whole point.

3. **Record the scope and confidence of a claim.** Don't make a claim seem more certain or far-reaching than it is. The second sentence doesn't accurately or fairly report the first:

   ORIGINAL: One study on the perception of risk (Clark, 2008) suggests a link between high-stakes gambling and childhood concussions.

   MISLEADING NOTE: Clark (2008) says childhood concussions cause high-stakes gambling.

4. **Don't mistake a summary of another writer's views for those of an author summarizing them.** Some writers do not clearly indicate when they summarize another's argument, so it is easy to quote them as saying what they set out to disprove rather than what they in fact believe.

5. **Note why sources agree and disagree.** *How* and *why* sources agree is as important as the fact *that* they do. In the same way, sources might disagree because they interpret the same evidence differently or take different approaches to the problem. It is risky to attach yourself to what any one researcher says about an issue. It is not "research" when you uncritically summarize another's work. Even if your source is universally trusted, be careful. If you rely on at least two sources, you' ll usually find that they do not agree entirely, and that is where your own research can begin. *Which has the better argument? Which better respects the evidence?* In fact, you have a research problem right there: *Whom should we believe?*

4.7 Annotating Your Sources

There are some techniques for engaging your sources systematically through *annotation*. While mechanically recording passages from sources by downloading, cutting-and-pasting, photocopying, or retyping can help you quote or paraphrase accurately, if you don't talk back to your sources, you will simply accumulate inert data that you will have to sift through at some point. To advance your thinking, annotate key sentences and passages by highlighting or labeling them so that you can find them later. Mark ideas or data that you expect to use in your argument. Summarize what you have highlighted or sketch a response to it or add notes in the margin that help you interpret your highlighting. The more you write about a source now, the better you will understand it later.

4.7.1 Marginal Annotations

As an alternative to taking notes on paper or a computer, you can directly annotate many sources in print or digital form. Annotation is a technique of marking up a source through comments, questions, and cross-references to other sources. Annotating in the margins of textual sources is generally more productive than simply highlighting because it brings into relief the relevance of a source to your project.

In annotating, you document the active reading practices discussed in this chapter. You can use annotations to identify a source's claims and keywords or "argue" with a source by questioning (or extending) its reasons, evidence, and warrants (see part III). As your project develops, you can return to an annotated source to see what you were thinking earlier.

Of course, not every source is equally available for annotation. You can't write in the margins of library books or other texts you do not own. Many texts are accessible only (or most conveniently) in digital form. Fortunately, however, there are digital annotation tools that let you document your reading in digital environments. You can

use these tools to annotate a wide range of sources, including texts, images, recordings, and video, and to link your responses to various sources to create a searchable database for later reference.

The Value of Reading Widely

We have emphasized how important it is to have a good question to focus your research. Don't think, however, that you waste time reading sources that turn out to be irrelevant. In fact, when you read and record more than you use, you build up a base of knowledge crucial to the exercise of good thinking. Good thinking is a skill that you can learn, but you can exercise it only when you have a deep and wide base of knowledge to work with. So read sources not just to answer the question you ask today, but to help you think better about every question you'll ask for the rest of your research career. To that end, everything you read is relevant.

4.7.2 Annotated Bibliography

One approach to engaging sources is an annotated bibliography—a list of possible sources featuring a citation and brief summary for each source. (For more on citations, see chapter 12.) There are multiple types of annotations based on the motive for creating them. For a research project, an annotated bibliography offers a bird's-eye view of a range of sources and the roles they might play in your argument. Often the assembling of an annotated bibliography is a distinct stage in a research process, one that allows you (and your teacher) to reflect on the sources you have collected. Each annotation is an opportunity to evaluate the credibility of a source, summarize its argument, and explain its relevance to your project.

Compiling an annotated bibliography can help you gauge how thoroughly you have conducted your research and how deeply you have engaged the sources you have collected.

4.7.3 Keywords That Categorize Your Notes for Sorting

Finally, a conceptually challenging task: as you take notes, categorize each one under two or more keywords (see the upper-right corner of the note card on p. 85). Don't mechanically use words from the source; categorize the note by what it implies for your question, by a general idea larger than its specific content. Use the same tags or keywords for related notes; don't create a new one for every new note.

This step is crucial because it forces you to find the central ideas in a note. If you take notes electronically, the keywords let you instantly group related notes with a single Find command. If you use more than one keyword, you can recombine your notes in different ways to discover new relationships (especially important when you feel you are spinning your wheels).

▶ Quick Tip: Managing Moments of Uncertainty

As you get deeper into your project, you may experience a moment when everything seems to run together into a hopeless muddle. That usually happens when you accumulate notes faster than you can sort them. Such moments can be stressful, but they can also be a sign that you are on the verge of a new insight or discovery.

You can minimize anxiety by taking every opportunity to organize and summarize what you have gathered by *writing as you go* and by returning to the central questions: *What question am I asking? What problem am I posing?* Keep rehearsing that formula, *I am working on X to learn more about Y, so that my audience can better understand Z.* Writing regularly about these questions does more than help you stay focused; it also helps you think.

You can also turn to friends, classmates, teachers—anyone who will serve as a sympathetic but critical audience. Explain how what you have learned bears on your question and helps you solve your problem. Ask them, *Does this make sense? Am I missing anything important? What else would you like to know?* You will profit from their reactions, but even more from the mere act of explaining your ideas to non-specialists.