DEVELOPING A THESIS STATEMENT

A thesis statement presents the main idea of a piece of writing, usually in one sentence. The thesis statement points you in a specific direction, helping you to stay on track and out of tempting byways. In addition, it tells your reader what to expect.

Thesis statements can emerge at several points in the writing process. If an instructor assigns a controversial topic on which you hold strong views, the statement may pop into your head right away. At other times it may develop as you narrow a subject to a topic. Occasionally, you even have to write a preliminary draft to determine your main idea. Usually, though, the thesis statement emerges after you've gathered and examined your supporting information.

As you examine your information, search for the central point and the key points that back it up; then use these to develop your thesis statement. Converting the topic to a question may help you to uncover backup ideas and write a thesis statement. For example:

**Topic:** The commercial advantages of computerized data storage systems.

**Question:** What advantages do computerized data storage systems offer business?

**Thesis statement:** Computerized data storage systems offer business enormous storage capacity, cheap, instant data transmission almost anywhere, and significantly increased profits.

The thesis statement stems from the specifics the student unearthed while answering the question.

REQUIREMENTS OF A GOOD THESIS STATEMENT

Unless intended for a lengthy paper, a thesis statement focuses on just one central point or issue. Suppose you prepare the following thesis statement for a two- or three-page paper:

Centerville College should re-examine its policies on open admissions, vocational programs, and aid to students.

This sprawling statement would commit you to grapple with three separate issues. At best, you could make only a few general remarks about each one.

To correct matters, consider each issue carefully in light of how much it interests you and how much you know about it. Then make your choice and draft a narrower statement. The following thesis statement would do nicely for a brief paper. It shows clearly that the writer will focus on just one issue:

Because of the rising demand among high school graduates for job-related training, Centerville College should expand its vocational offerings.

A good thesis statement also tailors the scope of the issue to the length of the paper. No writer could deal adequately with "Many first-year college students face crucial adjustment problems" in two or three pages. The idea is too broad to yield more than a smattering of poorly supported general statements. Paring it down to "Free time is a responsibility that challenges many first-year college students," however, results in an idea that could probably be developed adequately.

A good thesis statement further provides an accurate forecast of what's to come. If you plan to discuss the effects of overeating, don't say, "Overeating stems from deep-seated psychological factors and the easy availability of convenience foods." Such a statement, incorrectly suggesting that the paper will focus on causes, would only mislead and confuse your reader. On the other hand, "Overeating leads to obesity, which can cause or complicate several serious health problems" accurately represents what's to follow.

Finally, a good thesis statement is precise, often previewing the organization of the paper.
Assertions built on fuzzy, catchall words like *fascinating, bad, meaningful,* and *interesting,* or statements like "My paper is about..." tell neither writer nor reader what's going on. To illustrate:

- New York is a fascinating city.
- My paper is about no-fault divorce.


Now look at the rewritten versions of those faulty thesis statements:

- New York's art museums offer visitors an opportunity to view a wide variety of great paintings.
- Compared to traditional divorce, no-fault divorce is less expensive, promotes fairer settlements, and reflects a more realistic view of the causes of marital breakdown.

These statements tell the reader not only what points the writer will make but also the order they will follow.

**Omission of Thesis Statement**

Not all papers have explicit thesis statements. Narratives and descriptions, for example, often merely support some point that is unstated but nevertheless clear, and professional writers sometimes imply their thesis rather than state it openly. Nonetheless, a core idea underlies and controls all effective writing.

**Changing Your Thesis Statement**

Unlike diamonds, thesis statements aren't necessarily forever. Before your paper is in final form, you may need to change your thesis statement several times. If you draft the thesis statement during the narrowing stage, you might change it to reflect what you uncovered while gathering information. Or you might amend it after writing the first draft so that it reflects your additions and deletions.

Tentative or final, formulated early or late, the thesis statement serves as a beacon that spotlights your purpose.

**Writing the First Draft**

Now on to the first draft of your essay. The writing should go rather quickly. After all, you have a topic you're qualified to write about, a thesis statement that indicates your purpose, enough information to develop it, and a written plan to follow.

But sometimes when you sit down to write, the words won't come; and all you can do is doodle or stare at the blank page. Perhaps the introduction is the problem. Many writers are terrified by the thought of the opening paragraph. They want to get off to a good start but can't figure out how to begin. If this happens to you, additional brainstorming or freewriting can make you more comfortable and may suggest an opening. Keep in mind that any lead-in you write now can be changed later. If these suggestions don't solve your problem, skip the introduction for the time being. Once you have drafted the body of the paper, an effective opening should come more easily.

Here are some general suggestions for writing a first draft:

1. Stack your thesis statement, flexible notes, and written plan in front of you. They will start you thinking.
2. Skip every other line (double-space) and leave wide margins. Then you'll have
room to revise later.
3. Write quickly; capture the drift of your thoughts. Concentrate on content and organization. Get your main points and supporting details on paper in the right sequence. Don't spend time correcting grammatical or punctuation errors, improving your language, or making the writing flow smoothly. You might lose your train of thought and end up doodling or staring again.
4. Take breaks at logical dividing points, for example, when you finish discussing a key point. Before you start to write again, scan what you've written.

Now for some specific suggestions that will help you with the actual writing:
1. Rewrite your thesis statement at the top of your first page to break the ice and build momentum.
2. Write your first paragraph, introducing your essay and stating your thesis. If you get stuck here, move on to the rest of the paper.
3. Follow your plan as you write. Begin with your first main point and work on each section in turn.
4. Look over the supporting details listed under the first heading in your flexible notes. Write a topic sentence stating the central idea of the paragraph.
5. Turn the details into sentences; use one or more sentences to explain each one. Add other related details, facts, or examples if they occur to you.
6. When you move from one paragraph to the next, try to provide a transitional word or sentence that connects each paragraph.
7. Write your last paragraph, ending your essay in an appropriate fashion. If you get stuck, set your conclusion aside and return to it later.

Writing a draft isn't always so systematic. If you are inspired, you may want to abandon your plans and simply use your first draft to explore ideas. You can always revise, so don't be overly concerned if you get off track. You might uncover some of your best material during this type of search.

**PLANNING AND DRAFTING WITH A WORD PROCESSOR**

Using a computer and word-processing software allows you to compose, save what you write, insert new material, delete unwanted material, move sections around, and when you are ready, print copies. If you can use your college's equipment and software, read the manual for your unit to discover its capabilities before you attempt to compose with it. Trying to write a paper while simultaneously learning about a word-processing program is a fast route to frustration.

Many word-processing programs can help you plan and draft an essay as well as revise and edit it. You can brainstorm or freewrite, entering words, phrases, and ideas as they come to mind. Do this for about ten minutes and then print a copy to comb for promising bits and pieces.

If you approach a topic through the set of questions on page 30, convert them into specific questions related to the broad subject area, and then enter them and your answers to them into your document. If you don't find a topic in the answers, brainstorm or freewrite further.

When you draft, experiment with your ideas by trying out new arrangements of material. If your writing stalls, note the spot with an asterisk or other marker so that you can easily find it later with a search command; then continue to write. Always save each draft in a file, if not in hard copy. You may want to use parts of an early draft in a later version.
Revising and Editing Your Paper

All of us at one time or another have said something careless to a friend, date, or mate and then spent the rest of the night regretting our words. In contrast, when we write we can make sure we say exactly what we mean. Good writers don’t express themselves perfectly on the first try, but they do work hard at revising their initial efforts.

Just what is revision? Don’t confuse it with proofreading or editing, the final stage of the writing process, where you carefully inspect your word choice, spelling, grammar, and punctuation. Revision is much more drastic, often involving an upheaval of your draft as you change its content and organization in order to communicate more effectively.

Most of what you read, including this book, has been considerably altered and improved as the writers progressed through early drafts. This fact shouldn’t surprise you. After all, a rough copy is merely a first attempt to jot down some ideas in essay form. No matter how well you gather and organize your material, you can’t predict the outcome until you’ve prepared a draft. Sometimes only touch-up changes are required. More often though, despite your efforts, this version will be incomplete, unclear in places, possibly disorganized. You might even discover an entirely different idea, focus, or approach buried within it. During revision you keep changing things—your focus, approach to the topic, supporting material, and thesis statement—until the results satisfy you.

Inexperienced writers often mistakenly view initial drafts as nearly finished products rather than as experiments to alter, or even scrap, if need be. As a result, they often approach revision with the wrong attitude. To revise successfully, you need to control your ego and your fear and become your own first critical reader. Set aside natural feelings of accomplishment (“After all, I've put a great deal of thought into this”) and dread (“Actually, I'm afraid of what I'll find if I look too closely”). Instead, recognize that revision offers an opportunity to upgrade your strong features and strengthen your weak ones.

Preparing to Revise

To distance yourself from your writing and sharpen your critical eye, set your first draft aside for at least a half day, longer if time permits. When you return to it, gear up for revision by jotting down your intended purpose and audience before you read your paper. These notations will help keep your changes on track. In addition, note any further ideas that have occurred to you.

The right attitude is vital to effective revision. Far too many students hastily skim their essays to reassure themselves that "Everything sounds O.K." Avoid such a quick-fix approach. If your draft appears fine on first reading, probe it again with a more critical eye. Try putting yourself in your reader's place. Will your description of a favorite getaway spot be clear to someone who has never seen it? Will your letter home asking for money really convince parents who might think they've already given you too much? Remember: If you aren't critical now, anticipating confusion and objections, your reader certainly will be later.

Read your essay at least three times, once for each of these reasons:

To improve the development of the essay as a whole.
To strengthen paragraph structure and development.
To sharpen sentences and words

When you finish reading your paper for content, make a final, meticulous sweep to search for errors and problems that mar your writing. Use the Personal Revision Checklist on the inside back cover of this book to note your own special weaknesses, perhaps some problem with punctuation or a failure to provide specific support. Later chapters discuss paragraphs, sentences, and words in detail. Check these chapters for more information about the points introduced here.
CONSIDERING THE WHOLE ESSAY

If you inspect your draft only sentence by sentence, you can easily overlook how its parts work together. A better approach is to step back and view the overall essay rather than its separate parts, asking questions such as "Does the beginning mesh with the end?" "Does the essay wander?" "Has anything been left out?" In this way you can gauge how part relates to part and to the whole. Use the acronym FACT to guide this stage of your revision.

F. Ask yourself first whether the whole essay FITS together, presenting a central point for a specific audience. Have you delivered what the thesis statement promises? First drafts often include paragraphs, or even large sections, that have little bearing on the main point. Some drafts contain the kernels of several different essays. Furthermore, one section of a draft might be geared to one audience (parents, for example) and another section to an entirely different audience (students, perhaps). As you read each part, verify its connection to your purpose and audience. Don't hesitate to chop out sections that don't fit, redo stray parts so they accord with your central idea, or alter your thesis statement to reflect better your supporting material. Occasionally, you might even expand one small, fertile section of your draft into an entirely new essay.

A. Whenever we write first drafts, we unwittingly leave out essential material. As we revise, we need to identify and fill these gaps. Ask yourself: "Where will the reader need more information or examples to understand my message?" Then ADD the appropriate sentences, paragraphs, or even pages.

C. First drafts often contain material that fits the thesis but doesn't contribute to the essay. Writing quickly, we tend to repeat ourselves, include uninteresting or uninformative examples, and crank out whole paragraphs when one clear sentence would suffice. As you revise, CUT away this clutter with a free hand. Such paring can be painful, especially if you're left with a skimpy text, but your message will emerge with much greater clarity. As you've probably guessed, revising a draft often requires both adding and cutting.

T. Carefully TEST the organization of your essay. The text should flow smoothly from point to point with clear transitions between the various ideas. Test the organization by outlining your major and minor points, then checking the results for logic and completeness. Alternatively, read the draft and note its progression. Look for spots where you can clarify connections between words and thus help your readers.

Chapters 5-13 explain nine different writing strategies, each concluding with revision questions geared specifically to that strategy. Use these questions, together with the FACT of revision, to help you revise more effectively.

As you read your own essay, note on a separate sheet of paper problems to solve, ideas to add, and changes to try. When you mark the actual essay, make your job easier by using these simple techniques:

1. To delete something, cross it out lightly; you may decide to resurrect it later.
2. To add a section of text, place a letter (A, B, C, D) at the appropriate spot and write the new material on a separate sheet, keyed to the letter. Make changes within sections by crossing out what you don't want and writing the replacement above it or nearby.
3. To rearrange the organization, draw arrows showing where you want things to go, or cut up your draft and rearrange the sections by taping them on new sheets of paper. Use whatever method works best for you.

When you finish revising your draft, you might want to team up with one or more classmates and read one another's work critically. The fresh eye you bring to the task can uncover shortcomings that would otherwise go unnoticed. Pages 61-69 discuss peer editing in detail.
STRENGTHENING PARAGRAPH STRUCTURE AND DEVELOPMENT

Once you finish considering the essay as a whole, examine your paragraphs one by one, applying the FACT approach that you used for the whole paper. Make sure each paragraph FITS the paper’s major focus and develops a single central idea. If a paragraph needs more support or examples, ADD whatever is necessary. If a paragraph contains ineffective or unhelpful material, CUT it. TEST the flow of ideas from paragraph to paragraph and clarify connections, both between and within paragraphs, as necessary. Ask the basic questions in the checklist that follows about each paragraph, and make any needed revisions.

REVISION CHECKLIST FOR PARAGRAPHS

■ Does the paragraph have one, and only one, central idea?
■ Does the central idea help to develop the thesis statement?
■ Does each statement within the paragraph help to develop the central idea?
■ Does the paragraph need additional explanations, examples, or supporting details?
■ Would cutting some material make the paragraph stronger?
■ Would reorganization make the ideas easier to follow?
■ Can the connections between successive sentences be improved?
■ Is each paragraph clearly and smoothly related to those that precede and follow it?

Don’t expect to escape making changes; some readjustments will undoubtedly be needed. Certain paragraphs may be stripped down or deleted, others beefed up, still others reorganized or repositioned. Chapter 15 contains more information on writing effective paragraphs.

SHARPENING SENTENCES AND WORDS

Next, turn your attention to sentences and words. You can improve your writing considerably by finding and correcting sentences that convey the wrong meaning or are stylistically deficient in some way. Consider, for example, the following sentences:

Just Mary was picked to write the report.
Mary was just picked to write the report.
Mary was picked to write just the report.

The first sentence says that no one except Mary will write the report; the second says that she was recently picked for the job; and the third says that she will write nothing else. Clearly, each of these sentences expresses a different meaning.

Now let’s look at a second set of sentences:

Personally, I am of the opinion that the results of our membership drive will prove to be pleasing to all of us.
I believe the results of our membership drive will please all of us.

The wordiness of the first sentence slows the reader’s pace and makes it harder to grasp the writer’s meaning. The second sentence, by contrast, is much easier to grasp.

Like your sentences, your words should convey your thoughts precisely and clearly. Words are, after all, your chief means of communicating with your reader. Examine the first draft and revised version of the following paragraph, which describe the early morning actions of the writer’s roommate. The underlined words identify points of revision.

First Draft

Coffee cup in hand, she moves toward the bathroom. The coffee spills noisily on the tile floor as she reaches for the light switch and turns it on. After looking briefly at the face in the mirror, she walks toward the bathtub.

Revised Version
Coffee cup in hand, she stumbles toward the bathroom. The coffee she spills on the tile floor makes a slapping sound as she gropes for the light switch and flips it on. After squinting briefly at the face in the mirror, she shuffles toward the bathtub.

Note that the words in the first draft are general and imprecise. Exactly how does she move? With a limp? With a strut? With a spring in her step? And what does "noisily" mean? A thud? A roar? A sharp crack? The reader has no way of knowing. Recognizing this fact, the student revised her paragraph, substituting vivid, specific words. As a result, the reader can visualize the actions more sharply.

Don't confuse vivid, specific words with "jawbreaker words"—those that are complex and pretentious. (Most likely all of the words in the revised version are in your vocabulary.) Words should promote communication, not block it.

Reading your draft aloud will force you to slow down, and you will often hear yourself stumble over problem sections. You'll be more likely to uncover errors such as missing words, excessive repetition, clumsy sentences, and sentence fragments. Be honest in your evaluation; don't read in virtues that aren't there or that exaggerate the writing quality.

**REVISION CHECKLIST FOR SENTENCES**

- What sentences are not clearly expressed or logically constructed?
- What sentences seem awkward, excessively convoluted, or lacking in punch?
- What words require explanation or substitution because the reader may not know them?
- Where does my writing become wordy or use vague terms?
- Where have I carelessly omitted words or mistakenly used the wrong word?

Chapters 16 and 17 discuss sentences and words in detail.

**PROOFREADING YOUR DRAFT**

After revising your draft, proofread or edit it to correct errors in grammar, punctuation, and spelling. Since we often overlook our own errors simply because we know what we meant, proofreading can be difficult. Inch through your draft deliberately, moving your finger along slowly under every word. Repeat this procedure several times, looking first for errors in grammar, then for sentence errors and problems in punctuation and mechanics, and finally for mistakes in spelling. Be especially alert for problems that have plagued your writing in the past.

Effective proofreading calls for you to assume a detective role and probe for errors that weaken your writing. If you accept the challenge, you will certainly improve the quality of your finished work.

**WRITING THE INTRODUCTION AND CONCLUSION**

If you've put off writing your introduction, do it now. Generally, short papers begin with a single paragraph that includes the previously drafted thesis statement, which sometimes needs to be rephrased so that it meshes smoothly with the rest of the paragraph. The introduction acquaints the reader with your topic; it should clearly signal your intention as well as spark the reader's interest. Pages 222-224 discuss and illustrate effective introductions.

The conclusion wraps up your discussion. Generally a single paragraph in short papers, a good ending summarizes or supports the paper's main idea. Pages 225-227 discuss and illustrate effective conclusions.

**SELECTING A TITLE**

All essays require titles. Unless a good title unexpectedly surfaces while you are writing, wait until you finish the paper before choosing one. Since the reader must see the connection
between what the tide promises and what the essay delivers, a good title must be both accurate and specific.

Titling the Mt. Pleasant essay "Shopping in Mt. Pleasant" would mislead the reader, as shopping is mentioned only briefly. A specific title suggests the essay's focus rather than just its topic. For example, "Teenage Fun in Mt. Pleasant" is clearer and more precise than simply "Mt. Pleasant." The essay is geared to teenage activities, not a description of the city as a whole.

To engage your reader's interest, you might try your hand at a clever or catchy tide, but don't get so carried away with creativity that you forget to relate the tide to the paper's content. Here are some examples of common and clever tides:

**Common:**  "Handling a Hangover"
**Clever:**    "The Mourning After"

**Common:**  "Selecting the Proper Neckwear"
**Clever:**    "How to Ring Your Neck"

Use a clever tide only if its wit or humor doesn't clash with the overall purpose and tone of the paper.

It is crucial that you view revision not as a hasty touch-up job or as a quick sweep through your draft just prior to handing it in. Instead, revision should be an ongoing process that often involves an upheaval of major sections as you see your draft through your reader's eyes and strive to write as well as you can. Only when you reach that summit have you finished revising.

**REVISING WITH A COMPUTER**

Many writers prefer the advantages of revising on a computer. All word-processing programs allow you to write over unwanted sections of your draft, add new information, delete useless material, and move parts of the text around. Learn all the commands of your particular program and experiment to see exactly what your options are. The following practical tips will improve your efficiency:

1. Always keep a backup copy of everything. Accidentally erasing a file or losing your work to an electrical power surge is not uncommon. In addition, save copies of your earlier drafts, either as printouts or on disk; selected parts may prove useful later, and new papers sometimes sprout from old drafts. You can either save each draft under variations of your file name—"COPY A," "COPY B," "COPY C"—or keep deleted sections in specially labeled files.

2. Jot down helpful ideas or comments in your text as you revise. Enclose them with a special symbol, such as < >, and either save them in a separate file or delete them later if they serve no purpose.

3. If you struggle with a section of the text, write two or three versions and then pick your favorite. You might even open a new file, experiment freely, and then use the best version in your draft.

4. Don't allow the program to control how you revise. The easy-to-use, gentle-touch keyboards can lull you into a lapse of judgment and cause you to forget whether your words are worth writing. Pages of worthless material could pile up. Furthermore, don't be tempted to do what the commands make easiest: fiddle endlessly with sentences and words, never develop the essay as a whole, and move blocks of writing around indiscriminately. Avoid being electronically bewitched and make only those additions and changes that improve your writing.

5. Always revise using a printout. If you use just the computer, you are limited to only one screen at a time. A printed page has a different look. In addition, a printout allows you to compare several pages at once: You can see, for example, how the second paragraph might be more effective if repositioned as paragraph 5.

6. When you finish revising, check the coherence of your draft. The writing must flow
smoothly at the points where you have added, deleted, or moved sections of text. In
addition, altered sentences must be clearly written and logically constructed. You can
best check the essay's flow with a printout.

7. Proofreading with a word processor poses certain dangers. For example, a spelling
check function can't judge whether you used the wrong word (form instead of from) or
confused identical sounding but differently spelled words (their, there, they're). Furthermore, the unit will sometimes flag words that are not misspelled but are simply
not in the computer's list. In addition, there are few good programs to check grammar or
punctuation. You are still the ultimate proofreader.

PEER EVALUATION OF DRAFTS

At various points in the writing process, your instructor may ask you and your classmates to
read and respond to one another's papers. Peer response often proves useful because even the
best writers cannot always predict how their readers will react to their writing. For example,
magazine articles designed to reduce the fear of AIDS have, in some cases, increased anxiety
about the disease. Furthermore, we often have difficulty seeing the problems with our own
drafts because so much hard work has gone into them. What seems clear and effective to us can
be confusing or boring to our readers. Comments from our peers can frequently launch a more
effective essay.

Just as the responses of others help you, so will your responses help them. You don't have
the close, involved relationship with your peers' writing that you do with your own. Therefore,
you can gauge their drafts objectively. This type of critical evaluation will eventually heighten
your awareness of your own writing strengths and weaknesses. And knowing how to read your
own work critically is one of the most important writing skills you can develop.

RESPONDING TO YOUR PEERS' DRAFTS

Responding to someone else's writing is easier than you might imagine. It's not your job to spell
out how to make the draft more effective, how to organize it, what to include, and what
language to use. The writer must make these decisions. Your job is to identify problems, not
solve them. You can do that best by responding honestly to the draft.

Some responses are more helpful than others. You don't help the writer by casually
observing that the draft "looks O.K." Such a response doesn't point to problem areas; rather it
suggests that you didn't read the paper carefully and critically. Wouldn't you inform a friend
who was wearing clothes that looked terrible why they looked terrible? The same attitude
should prevail about the writing of others, something that makes a statement just as clothes do.
Nor is a vague comment such as "The introduction is uninteresting" helpful. Point out why it is
uninteresting. For instance, you might note that "The introduction doesn't interest me in the
paper because it is very technical, and I get lost. I ask myself why I should read on." Here are
two more examples of ineffective responses and their more effective counterparts.

Ineffective

The paper was confusing.

Effective

Paragraphs 2, 3, and 4 confused me. You jumped around too much. First you
wrote, about your experience on the first day of College, then you went on to how
much you enjoyed Junior high school, and finally you wrote about what you want to
do for a career. I don't see how these ideas relate or why they are in the order that they
are.

Ineffective

More examples would help.

Effective
When you indicate that College is a scary place. Z. get no real idea or why or how. What are the things that you think make. College scary?I would like some examples.

Here are some steps to follow when responding to someone else’s draft. First, read the essay from beginning to end without interruption. On a separate sheet of paper, indicate what you consider to be the main idea. The writer can then see whether the intended message has come through. Next, identify the biggest problem and the biggest strength. Writers need both negative and positive comments. Finally, reread the paper and write either specific responses to each paragraph or your responses to general questions such as the ones that follow. In either case, don’t comment on spelling or grammar unless it really inhibits your reading.

**PEER RESPONSE CHECKLIST**

- What is the main point of this essay?
- What is the biggest problem?
- What is the biggest strength?
- What material doesn’t seem to fit the main point or the audience?
- What questions has the author not answered?
- Where should more details or examples be added? Why?
- At what point does the paper fail to hold my interest? Why?
- Where is the organization confusing?
- Where is the writing unclear or vague?

As you learn the various strategies for successful writing, new concerns will arise. Questions geared to these concerns appear in the revision section that concludes the discussion of each strategy.

**AN EXAMPLE OF PEER RESPONSE**

The following is the first draft of a student essay and a partial peer response to it. The response features three of the nine general questions and also comments on one paragraph. Before you read the response, try evaluating this essay yourself and then compare your reactions to those of the other student.

**Captive Breeding in Zoos**

1. This paper is about captive breeding. Today, humans hinder nature's species' right to survive. We are making it hard for over one hundred species of animals to continue to exist. But captive breeding in the world's zoos may be just what the doctor ordered. This rescue attempt is a complex and difficult undertaking. Captive breeding of endangered species is complicated by the special social and physical requirements of individual species.

2. There are many social problems that have to be solved for the successful reproduction of endangered species in zoos. Mating is one of the most important of these problems. One propagation "must" for many felines, pandas, and pygmy hippopotamuses is the complete separation of sexes until they're "ready." Leland Stowe says that cheetahs almost never get together unless they can't see or smell each other ahead of time. When females exhibit a certain behavior, they bring on the male.

3. Male-female compatibility is a social problem. Great apes seem to be as particular as people in choosing mates. Stowe tells about an orangutan that turned a cold shoulder on the females in the National Zoo located in Washington, D.C. Then they shipped him to a zoo in Colorado. There, he took up with one of the females. The curator of the zoo, William Zanten, says he's "been siring offspring ever since."

4. Social factors hurt care of infant primates. Sheldon Campbell talks about this in *Smithsonian* magazine. He writes about the problems of breeding golden marmosets. These are monkeys that live in Brazil. The scientists found that captive-born parents
neglected their young. Sometimes they even killed them. The problem was due to the fact that the marmosets had no experience living in a family situation. They didn't know what to do. Emily Hahn writes about gorillas in The New Yorker. She says that those raised by humans make poor mothers. Those raised by dutiful mothers make good parents.

The second important stumbling block to successful captive breeding is physical problems. Ignorance of dietary needs can be bad. Stowe talks about the captive breeding of gorillas and says that when this breeding was first getting started, infants exhibited a very high mortality rate. Then the babies were given iron and meat protein, the latter rich in vitamin B-12. They were sprinkled on bananas, and the bananas were fed to the babies. The survival rate markedly improved.

Animals can be bred more easily if they are in an environment that duplicates that animal's natural habitat. Hooved and horned animals are an easy job because of the similarity in terrain and climate of their natural habitats to zoo habitats. Polar bears are a lot tougher. Mothers want to be let alone until their cubs are up and about. Because of this fact, the bears often kill their babies. Stowe says they solved this problem by building replicas of arctic ice caves. The mothers and cubs are left alone until they emerge from the cave. John Perry, Director of the National Zoo, said this:

The world is our zoo—a zoo that must be well managed, its resources carefully husbanded, for these are the only resources it can ever have. We have appointed ourselves the keepers of this zoo, but we cannot live outside its gates. We are of it. Our lives are inextricably intertwined with the lives of all that live within. Their fate will be ours.

Our endangered species can survive only by nature's implacable test—sustained births by second and third generations. It will take decades to reach such a verdict of success. Thus we can see that captive breeding is beset by many problems.

**ACTING ON YOUR PEERS' RESPONSES**

Sometimes you need strong nerves to act on a peer response. You can easily become defensive or discount your reader's comments as foolish. Remember, however, that as a writer you are trying to communicate with your readers, and that means taking seriously the problems they identify. Of course, you decide which responses are appropriate, but even an inappropriate criticism sometimes sets off a train of thought that leads to good ideas for revision.

**COLLABORATIVE WRITING**

In many careers you'll have to work as part of a group to produce a single document. Recognizing this fact, many instructors assign collaborative writing projects. Writing as part of a group offers some advantages and poses some challenges. You can draw on many different perspectives and areas of expertise, split up the work, and enjoy the feedback of a built-in peer group. On the other hand, you must also coordinate several efforts, resolve conflicts over the direction of the project, deal with people who may not do their fair share, and integrate different styles of writing.

Even though you write as part of a group, the final product should read as though it were written by one person. Therefore, take great pains to ensure that the paper doesn't resemble a patchwork quilt. You can help achieve this goal by following the principles of good writing discussed throughout this book. Here are some suggestions for successful collaborative work:

1. Select a leader with strong organizational skills.
2. Make sure each person has every other group member's phone number.
3. Analyze the project and develop a work plan with clearly stated deadlines for each step of the project.
4. Assign tasks on the basis of people's interests and expertise.
5. Schedule regular meetings to gauge each person's progress.
6. Encourage ideas and feedback from all members at each meeting.
7. If each member will develop a part of the paper, submit each one's contribution to the other members of the group for peer evaluation.
8. To ensure that the finished product is written in one style and fits together as a whole, give each member's draft to one person and ask him or her to write a complete draft.
9. Allow plenty of time to review the draft so necessary changes can be made.

Collaborative writing provides an opportunity to learn a great deal from other students. Problems can arise, however, if one or more group members don't do their work or skip meetings entirely. This irresponsibility compromises everyone's grade. The group should insist that all members participate, and the leader should immediately contact anyone who misses a meeting. If a serious problem develops despite these efforts, contact your instructor.

**Collaboration Using E-Mail**

Increasing numbers of college students are using e-mail to collaborate on writing projects. E-mail allows you to exchange material and comments at every stage of the writing process. To illustrate, you can share

1. brainstorming ideas developed during the search for a writing topic
2. brainstorming ideas developed during the search for supporting information
3. tentative thesis statements or any general statement that will shape the document
4. individual sections of the writing project
5. copies of the entire original draft.

Whenever you use e-mail for collaborative writing, it's a good idea to designate a project leader who will ensure that all members participate and who will receive and distribute all materials. Your instructor may request copies of the e-mail exchanges in order to follow your work.

**Maintaining and Reviewing a Portfolio**

A portfolio is an organized collection of your writing, usually kept in a three-ring binder or folder. It's a good idea to retain all your work for each class, including the assignment sheet, your prewriting, and all your drafts. Organize this material either in the order the papers were completed or by type of assignment.

Why assemble a portfolio? Not only can a portfolio be a source of ideas for future writing, but it also allows you to review the progress of your current papers. In addition, should any confusion arise about a grade or an assignment, the contents of your portfolio can quickly clarify matters.

Some instructors will require you to maintain a portfolio. They will probably specify both what is to be included and how it is to be organized. They may use the portfolio to help you gain a better understanding of your strengths and weaknesses as measured by the series of papers. Furthermore, portfolios give your instructor a complete picture of your work. Some departments collect student portfolios to assess their writing program; by reviewing student progress, instructors can determine what adjustments will make the program even more effective.

You can review your own portfolio to gain a better understanding of your writing capabilities. Answer these questions as you look over your materials:

1. With what assignments or topics was I most successful? Why?
2. What assignments or topics gave me the most problems? Why?
3. How has my prewriting changed? How can I make it more effective?
4. How has my planning changed? How can I make it more effective?
5. What makes my best writing good? How does this writing differ from my other work?
6. What are the problem areas in my weakest writing? How does this writing differ from
my other work?

7. Did I use the checklists in the front of this text to revise my papers? Do I make significant changes on my own, in response to peer evaluation, or in response to my instructor's comments? If not, why not? What kinds of changes do I make? What changes would improve the quality of my work?

8. What organizational patterns have I used? Which ones have been effective? Why? Which ones have given me trouble? Why?

9. What kinds of introductions have I used? What other options do I have?

10. What kinds of grammar or spelling errors mar my writing? (Focus on these errors in future proofreading.)
ARGUMENT: CONVINCING OTHERS

"What did you think of that movie?"
"Great!"
"What do you mean, great? I thought the acting was wooden and the story completely unbelievable."
"That's about what I'd expect from you. You wouldn't know a good movie if it walked up and bit you."
"Oh yeah? What makes you think you're such a great...?"

Argument or quarrel? Many people would ask, "What's the difference?" To them, the two terms convey the same meaning, both calling to mind two angry people, shouting, trading insults, and sometimes slugging it out. In writing, however, argument stands for something quite different: a paper, grounded on logical, structured evidence, that attempts to convince the reader to accept an opinion, take some action, or do both. Argument is also a process during which you explore an issue fully, considering different perspectives, assumptions, reasons, and evidence to reach your own informed position.

The ability to argue effectively will help you succeed both in class and on the job. A business instructor may ask students to defend a particular management style. A political science instructor may want you to support or oppose limiting the number of terms that members of a legislature can serve. A special education instructor may have students make a written case for increased funding for exceptional students. In the workplace, a computer programmer may argue that the company should change its account-keeping program, an automotive service manager call for new diagnostic equipment, and a union president make a case that a company's employees merit raises.

Arguments don't always involve conflicts. Some simply support a previously established decision or course of action, as when a department manager sends her boss a memo justifying some new procedure that she implemented. Others try to establish some common ground, just as you might do when you and your date weigh the pros and cons of two films and pick one to see.

When preparing to win an argument, you need to be aware that certain kinds of topics just aren't arguable. There's no point, for instance, in trying to tackle questions of personal preference or taste (Is red prettier than blue?). Such contests quickly turn into "it is," "it isn't" exchanges that establish nothing except the silliness of the contenders. Questions of simple fact (Was Eisenhower first elected President in 1952?) don't qualify either; one side has all the ammunition. Bickering will never settle these issues; reference books quickly will. We turn to argument when there is room for disagreement.

When you write an argument, you don't simply sit down and dash off your ideas for their own sake. Instead, argument represents an opportunity to think things through, to gradually, and often tentatively, come to some conclusions, and then, in stages, begin to draft your position with the support you have discovered. You should try to keep an open mind as you formulate and then express your views. And remember, you rarely start from scratch. Instead, you join a conversation where ideas and evidence have already been exchanged. As a result, you need to be thoughtful and informed.

The most successful arguments rest on a firm foundation of solid, logical support. In addition, many arguments include emotion because it can play an important part in swaying reader opinion. Furthermore, writers often make ethical or current popular appeals by projecting favorable images of themselves since readers form conclusions based on their judgments of the writer.

THE RATIONAL APPEAL
In society, and certainly in professional circles, you are usually expected to reach your
conclusions on the basis of good reasons and appropriate evidence. Reasons are the key points or general ideas you'll use to defend your conclusions. If, for instance, you support the needle-exchange program for intravenous drug users, one reason might be the considerable reduction in AIDS-related deaths that could result. If you oppose the program, one reason may be the drug dependency that will continue.

To convince readers, your reasons must be substantiated by evidence. If you favor needle exchange, you could cite figures that project the number or deaths that will be prevented. If you're against the program, you might quote a respected authority who verifies that dependency will become entrenched.

When you appeal to reason in an argument, then, you present your reasons and evidence in such a way that if your readers are also reasonable they will likely agree with you, or at least see your position as plausible. That assumes, of course, that you and your readers start from some common ground about the principles you share and what you count as evidence. Evidence falls into several categories: established truths, opinions of authorities, primary source information, statistical findings, and personal experience. The strongest arguments usually combine several kinds of evidence.

**Established Truths**

These are facts that no one can seriously dispute. Here are some examples:

**Historical fact:** The First Amendment to the United States Constitution prohibits Congress from abridging freedom of the press.

**Scientific fact:** The layer of ozone in the earth's upper atmosphere protects us from the sun's harmful ultraviolet radiation.

**Geographical fact:** The western part of the United States has tremendous reserves of coal.

Established truths aren't arguable themselves but do provide strong backup for argumentative propositions. For example, citing the abundant coal supply in the western regions could support an argument that the United States should return to coal to supply its energy needs.

Some established truths, the result of careful observations and thinking over many years, basically amount to enlightened common sense. The notion that everyone possesses a unique combination of interests, abilities, and personality characteristics illustrates this kind of truth. Few people would seriously question it.

**Opinions of Authorities**

An authority is a recognized expert in some field. Authoritative opinions—the only kind to use—play a powerful role in winning readers over to your side. The views of metropolitan police chiefs and criminologists could support your position on ways to control urban crime. Researchers who have investigated the effects of air pollution could help you argue for stricter smog-control laws. Whatever your argument, don't settle for less than heavyweight authorities, and, when possible, indicate their credentials to your reader. This information makes their statements more persuasive. For example, "Ann Marie Forsythe, a certified public accountant and vice-president of North American operations for Touche Ross Accounting, believes that the President's tax cut proposal will actually result in a tax increase for most Americans." You should, of course, also cite the source of your information. Follow your instructor's guidelines.

The following paragraph, from an article arguing that extra-high-voltage electric transmission lines pose a health hazard, illustrates the use of authority:

Robert Becker, a physician and director of the Orthopedic-Biophysics Laboratory at the Syracuse, New York, Veterans Administration Hospital-Upstate Medical Center, has been researching the effects of low-frequency electric fields (60 Hz) for fifteen years.
Testifying at health and safety hearings for proposed lines in New York, he said that exposure to the fields can produce physiological and functional changes in humans—anything from increased irritability and fatigue to raised cholesterol levels, hypertension and ulcers. Studies of rats exposed to low-level electric fields showed tumor growths and abnormalities in development. Dr. Becker believes we are performing unauthorized medical experiments by exposing people to the electromagnetic fields surrounding the transmission lines.

Kelly Davis, "Health and High Voltage: 765 KV Lines"

Beware of biased opinions. The agribusiness executive who favors farm price supports or the labor leader who opposes any restrictions on picketing may be writing merely to guard old privileges or garner new ones. Unless the opinion can stand especially close scrutiny, don't put it in your paper; it will just weaken your case with perceptive readers.

Because authorities don't always see eye to eye, their views lack the finality of established truths. Furthermore, their opinions will convince only if the audience accepts the authority as authoritative. Although advertisers successfully present football stars as authorities on shaving cream and credit cards, most people would not accept their views on the safety of nuclear energy.

**Primary Source Information**

You'll need to support certain types of argument with primary source information—documents or other materials produced by individuals directly involved with the issue or conclusions you reached by carrying out an investigation yourself. To argue whether the United States should have dropped the atom bomb on Japan to end World War II, for example, you would want to examine the autobiographies of those involved in making the decision and perhaps even the documents that prompted it. To take a position on the violence mentioned in some gangster rap, you would want to analyze the actual lyrics in a number of songs. To make a claim about the press coverage of the Persian Gulf War, you would want to read the newspaper and magazine accounts of correspondents who were on the scene. To convince readers to adopt your solution for the homeless problem, you might want to visit a homeless shelter or interview (in a safe place) some homeless people. This type of information can help you reach sound conclusions and build strong support for your position. Most college libraries contain a significant amount of primary source materials. Document the sources you use according to your instructor's guidelines.

**Statistical Findings**

Statistics—data showing how much, how many, or how often—can also buttress your argument. Most statistics come from books, magazines, newspapers, handbooks, encyclopedias, and reports, but you can use data from your own investigations as well. *Statistical Abstract of the United States* is a good source of authoritative statistics on many topics. Because statistics are often misused, many people distrust them, so any you offer must be reliable. First, make sure your sample isn't too small. Don't use a one-day traffic count to argue for a traffic light at a certain intersection. City Hall might counter by contending that the results are atypical. To make your case, you'd need to count traffic for perhaps two or three weeks. Take care not to push statistical claims too far. You may know that two-thirds of Tarrytown's factories pollute the air excessively, but don't argue that the same figures probably apply to your town. There's simply no carryover. Keep alert for biased statistics; they can cause as serious a credibility gap as biased opinions. Generally, recent data are better than old data, but either must come from a reliable source. Older information from *New York Times* would probably be more accurate than current data from some publication that trades on sensationalism. Note how the following writer uses statistics in discussing America's aging population and its impact on the federal budget:
...In 1955 defense spending and veterans benefits accounted for almost 70 percent of federal outlays. By 1995 their share was 19 percent. In the same period social security and Medicare (which didn't exist until 1965) went from 6 percent to 34 percent of the budget. Under present trends, their share would rise to 39 percent by 2005, projects the Congressional Budget Office. . . . Between 2010 and 2020, the older-than-65 population will rise by about a third; in the next decade, it will rise almost another third. Today, about one in eight Americans is older than 65; by 2030, the proportion is projected to be one in five. The older-than-85 population will rise even faster.

Robert J. Samuelson, "Getting Serious"

Again, follow your instructor's guidelines when documenting your sources.

**PERSONAL EXPERIENCE**

Sometimes personal experience can deliver an argumentative message more forcefully than any other kind of evidence. Suppose that two years ago a speeder ran into your car and almost killed you. Today you're arguing for suffer laws against speeding. Chances are you'll rely mainly on expert opinions and on statistics showing the number of people killed and injured each year in speeding accidents. However, describing the crash, the slow, pain-filled weeks in the hospital, and the months spent hobbling around on crutches may well provide the persuasive nudge that wins your reader over.

Often the experiences and observations of others, gathered from books, magazines, or interviews, can support your position. If you argue against chemical waste dumps, the personal stories of people who lived near them and suffered the consequences—filthy ooze in the basement, children with birth defects, family members who developed a rare form of cancer—can sway your reader.

Despite its usefulness, personal experience generally reinforces but does not replace other kinds of evidence. Unless it has other support, readers may reject it as atypical or trivial.

**EVALUATION OF EVIDENCE**

Once you have gathered the appropriate type(s) of evidence, certain standards govern the evaluation and use of that evidence. That a piece of information is in some way connected to your topic does not make it good evidence or qualify it for inclusion in your paper. Readers won't be convinced that trains are dangerous merely because you were in a train wreck. You should not reach a conclusion based on such flimsy evidence either. In order to reach a reasonable conclusion and defend a position with suitable evidence, you should apply the following principles.

**Evaluation Criteria**

<table>
<thead>
<tr>
<th>How credible are the sources of the information? How reliable is the evidence?</th>
<th>How much confirming evidence is there?</th>
<th>How much contradictory evidence is there?</th>
</tr>
</thead>
</table>

**Explanation**

Not all sources are created equal. U.S. Census data about population change is more credible than a local newspaper's estimate, drough bodi may be more valid dian your own estimate.

With evidence, more is better. One scientific study on the efficacy of high-protein diets would be good, but several would be better. One authority who claims that global warming is a reality becomes more credible when confirmed by several otier authorities.

If several scientific studies or authorities point to the efficacy of high-protein diets and several other studies find such diets harmful, clearly you would need to weigh the evidence
How well established is the evidence? | Extremely established evidence, such as the evidence for atoms, becomes the basis for textbooks and is assumed in most other research. This evidence is usually unquestionable, although it also can be overturned.

How well does the evidence actually support or fit the claim? | The fact that most Americans are immigrants or descendents of immigrants has no bearing on whether the country is admitting too many or too few immigrants. To make a case for or against some policy on immigration, die evidence would have to focus on its good or bad results.

What does the evidence actually allow you to conclude? | The evidence shouldn't lead you to reach an exaggerated conclusion. Studies showing that TV violence causes children to play more aggressively do not warrant the conclusion that it causes children to kill others.

Sometimes unwarranted conclusions result because a writer fails to take competing claims and evidence into consideration. For example, evidence shows that children in Head Start programs do better than others during the first three years of school. Other evidence, however, shows that in later years these students do not do significantly better. Yet other evidence shows that they are more likely to stay in school and less likely to get into trouble. Clearly, you shouldn't argue that Head Start ensures continuing success at all grade levels. You would need to weigh the credibility, quantity, reliability, and applicability of the available evidence to reach and defend a more limited conclusion.

**REASONING STRATEGIES**

An argument, then, consists of a conclusion you want to support, your reasons for that conclusion, and the evidence that supports your reasons. But how are reasons and evidence fitted together? Rational appeals include three reasoning strategies: induction, deduction, and analogy.

**INDUCTION**

An argument from induction occurs when a general claim is supported by specific evidence, whether direct observations, statistical data, or scientific studies. Most of our conclusions are supported inductively. When we conclude that a movie is worth watching because our friends liked it, when we decide a college program is effective because most students in it get jobs, or even when we support a scientific hypothesis based on formal experimentation, we are basing a conclusion on bits of evidence. We need to be thoughtful in reaching such conclusions. Are our friends like us and trustworthy? Are the jobs students get good jobs? All the principles for evaluating evidence apply.

Induction makes our conclusions probable but rarely proves them. To prove something by induction, we must check every bit of evidence and often that's just not practical or possible. The greater the number of observations and the larger the populations surveyed, the more strongly the conclusion is supported. Obviously then, just a few observations makes the evidence very weak. If you ask ten of fifteen thousand students whether they like the meal plan, you cannot conclude much if eight of the students liked the plan. These students may just be atypical.

All inductive evidence only makes supported conclusions, likely. It is important to measure
the strength of the supporting evidence.

You have several options for organizing an inductive argument. You might begin by posing some direct or indirect question in order to snare your reader's interest, or you might simply state the position you will argue. The body of the paper provides the supporting evidence. In the conclusion you could reaffirm your position or suggest the consequences of that position. You can also raise a general question, evaluate the evidence, and then come to a conclusion.

The following short example illustrates inductive argument:

Bologna is perhaps the most popular of all luncheon meats. Each day, thousands of individuals consume bologna sandwiches at noontime without ever considering the health consequences. Perhaps they should.

The sodium content of bologna is excessively high. On the average, three ounces contain over 850 milligrams, three times as much as a person needs in a single day. In addition, bologna's characteristic flavor and reddish color are caused by sodium nitrite, which is used to prevent the growth of botulism-causing organisms. Unfortunately, sodium nitrite combines with amines, natural compounds already in most foods, to form nitrosamines,

which have been proved to cause cancer in laboratory animals. Finally, from a nutrition standpoint, bologna is terrible. The fat content is around 28 percent, the water content ranges upward from 50 percent, and the meat includes very little protein.

Health-conscious people, then, will choose better fare for lunch.

Alison Russell

When writing an induction argument, in addition to presenting the available evidence, there are two other important things you should do. It is helpful to demonstrate the credibility of your evidence. Why should the reader find the evidence credible? In the above example, the argument would have been much stronger if the writer had established the source of the evidence.

On the average, as indicated on any store package, three ounces contain over 850 milligrams, three times as much as a person needs in a single day, according to the American Medical Association.

Also, if possible, try to show how the evidence fits the conclusion you want to reach.

DEDUCTION

Deduction is a process of argumentation that demonstrates how a specific conclusion follows logically from some initial premises about which people might agree. For example, to convince a friend to study harder, you begin with the assumption that a profitable career requires a good education; proceed to argue that for a good education students must study diligently; and conclude that, as a result, your friend should spend more time with the books. Politicians who assert that we all want to act in ways beneficial to future generations, then point out how the policies they favor will ensure that outcome, argue deductively.

As with induction, you have several options when organizing a deductive argument. You might begin with the position you intend to prove, with a question that will be answered by the argument, or with a synopsis of the argument. The body of the paper works out the implications of your assumption. In the conclusion you could directly state (or restate, in different words) your position, suggest the consequences of adopting or not adopting that position, or pose a question that is easily answered after reading the argument. Here is a short example of deductive argument:

The recent spot-checks of our rooms by the dorm's head advisor are an unacceptable invasion of privacy. This practice should stop immediately.

The United States Constitution prohibits searches by police officers unless these
officers have adequate reason. That is why the police need a search warrant before they can search any home. If they fail to obtain one, a case that ends up in court will likely be thrown out. Our right to privacy, then, can't be violated without due cause.

If the police can't search our homes without good reason, why should our head advisor spot-check our rooms for signs of wrongdoing?

Sammy Borchardt

When arguing from deduction, you need to make clear how your conclusions do actually follow from the agreed-upon premises. Those premises may also be questionable and need support, whether by induction or by demonstrating their deductive relationship to other strongly held ideas.

**Reductio ad Absurdum** A common and powerful form of deduction called *reductio ad absurdum* ("to reduce to absurdity") is used to question a position by showing that its consequences are problematic if carried to their logical end. To counter the position that the government should impose no restrictions on the public's right to bear arms, you might point out that, carried to its logical extreme, such a policy would allow individuals to own bazookas, cannons, and nuclear bombs. This absurd result makes it clear that certain restrictions should apply to our right to bear arms. The question then becomes where we should draw the ownership line.

**Syllogism** Sometimes a deductive argument is built around a categorical syllogism, a set of three statements that follow a fixed pattern to ensure sound reasoning. The first statement, called the *major premise*, names a category of things and says that all or none of them shares a certain characteristic. The *minor premise* notes that a thing or group of things belongs to that category. The *conclusion* states that the thing or group shares the characteristics of the category. Here are two examples:

| Major premise: | All persons are mortal. |
| Minor premise: | Sue Davis is a person. |
| Conclusion:    | Therefore, Sue Davis is mortal. |

| Major premise: | No dogs have feathers. |
| Minor premise: | Spot is a dog. |
| Conclusion:    | Therefore, Spot does not have feathers. |

Note that in each case both major and minor premises are true and the conclusion follows logically.

Syllogisms frequently appear in stripped-down form, with one of the premises or the conclusion omitted. The following example omits the major premise: "Because Wilma is a civil engineer, she has a strong background in mathematics." Obviously the missing major premise is as follows: "All civil engineers have strong backgrounds in mathematics."

**Syllogistic Argument at Work** A syllogism can occur anywhere in an essay: in the introduction to set the stage for the evidence, at various places in the body, even in the conclusion in order to pull the argument together. Here is an example that uses a syllogism in the introduction:

In 1966, when the Astrodome was completed in Houston, Texas, the managers concluded that it would be impossible to grow grass indoors. To solve their problem, they decided to install a ruglike synthetic playing surface that was fittingly called Astroturf. In the ensuing years, many other sports facilities have installed synthetic turf. Unfortunately, this development has been accompanied by a sharp rise in the number and severity of injuries suffered by athletes—a rise clearly linked to the surface they play upon. Obviously, anything that poses a threat to player safety is undesirable. Because synthetic turf does this, it is undesirable and should be replaced by grass.

Denny Witham
To support his position, the writer then notes that turf, unlike grass, often becomes excessively hot, tiring players and increasing their chances of injury; that seams can open up between sections of turf and lead to tripping and falling; that players can run faster on artificial turf and thus collide more violently; and that the extreme hardn
ess of the turf leads to torn ligaments and tissues when players slam their toes into it.

Avoiding Misuse of Syllogisms Two cautions are in order. First, make sure any syllogism you use follows the proper logical order. The writer of the following passage has ignored this caution:

And that's not all. Newton has stated openly that he favors federally funded abortions for the poor. Just the other day, the American Socialist party took this same stand. In my book, Newton's position puts him squarely in the Socialist camp. I strongly urge anyone supporting this man's candidacy to reconsider. . . .

Restated in syllogistic form, the writer's argument goes like this:

Socialists favor federally funded abortions for the poor.
Newton favors federally funded abortions for the poor.
Therefore, Newton is a Socialist.

The last two statements reverse the proper logical relationship, and as a result the syllogism proves nothing about Newton's politics: he may or may not be "in the Socialist camp."

Second, make sure the major premise of your syllogism is in fact true. Note this example:

All conservatives are opposed to environmental protection.
Mary is a conservative.
Therefore, Mary is opposed to environmental protection.

But is every conservative an environmental Jack the Ripper? In some communities, political conservatives have led fights against air and water pollution, and most conservatives agree that at least some controls are worthwhile. Mary's sympathies, then, may well lie with those who want to heal, rather than hurt, the environment.

Analogy in Argument

An analogy compares two unlike situations or things. Arguers often use analogies to contend that because two items share one or more likenesses, they are also alike in other ways. Familiar analogies assume that humans respond to chemicals as rats do and that success in school predicts success on the job. You have used analogy if you ever pressed your parents for more adult privileges, such as a later curfew, by arguing that you were like an adult in many ways.

Because its conclusions about one thing rest upon observations about some different thing, analogy is the weakest form of rational appeal. Analogies never prove anything. But they often help explain and show probability and therefore are quite persuasive.

For an analogy to be useful, it must feature significant similarities that bear directly on the issue. In addition, it must account for any significant differences between the two items. It is often helpful to test an analogy by listing the similarities and differences. Here's an effective analogy, used to back an argument that a liberal education is the best kind to help us cope successfully with life:

Suppose it were perfectly certain that the life and fortune of every one of us would, one day or other, depend upon his winning or losing a game of chess. Don't you think that we should all consider it to be a primary duty to learn at least the names and the moves of the pieces; to have a notion of a gambit, and a keen eye for all the means of giving and getting out of check? Do you not think that we should look with a disapprobation amounting to scorn, upon the father who allowed his son, or the state which allowed its members, to grow up without knowing a pawn from a knight?
Yet it is a very plain and elementary truth, that the life, the fortune, and the happiness of every one of us, and, more or less, of those who are connected with us, do depend upon our knowing something of the rules of a game infinitely more difficult and complicated than chess. It is a game which has been played for untold ages, every man and woman of us being one of the two players in a game of his or her own. The chessboard is the world, the pieces are the phenomena of the universe, the rules of the game are what we call the laws of Nature. The player on the other side is hidden from us. We know that his play is always fair, just, and patient. But also we know, to our cost, that he never overlooks a mistake, or makes the smallest allowance for ignorance. To the man who plays well, the highest stakes are paid, with that sort of overflowing generosity with which the strong shows delight in strength. And one who plays ill is checkmated—without haste, but without remorse.

Well, what I mean by Education is learning the rules of this mighty game. In other words, education is the instruction of the intellect in the law of Nature, under which name I include not merely things and their forces, but men and their ways; and the fashioning of the affections and of the will into an earnest and loving desire to move in harmony with those laws. For me, education means neither more nor less than this. Anything which professes to call itself education must be tried by this standard, and if it fails to stand the test, I will not call it education, whatever may be the force of authority, or of numbers, upon the other side.

Thomas Henry Huxley, "A Liberal Education and Where to Find It"

To develop an argument by analogy, brainstorm the two items being compared for significant similarities and prepare a chart that matches them up. The greater the number and closeness of these similarities, the better the argument by analogy.

THE EMOTIONAL APPEAL

Although effective argument relies mainly on reason, an emotional appeal can lend powerful reinforcement. Indeed, emotion can win the hearts and the help of people who would otherwise raise money for local charities by running stark case histories of destitute families. Organizations raise funds to fight famine by displaying brochures that feature skeletal, swollen-bellied children. Still other groups use emotion-charged stories and pictures to solicit support for environmental protection, to combat various diseases, and so on. Advertisers use emotion to play up our hopes, fears, and vanities in order to sell mouthwash, cars, clothes, and other products. Politicians paint themselves as God-fearing, honest toilers for the public good while lambasting their opponents as the uncaring tools of special interests. In evaluating or writing an argument, ask yourself whether the facts warrant the emotion. Is the condition of the destitute family truly cause for pity? Is any politician unwaveringly good, any other irredeemably bad?

The following passage, from a student argument favoring assisted suicide for the terminally ill, represents an appropriate use of emotion:

When I visited Grandpa for the last time, he seemed imprinted on the hospital bed, a motionless, skeleton-like figure tethered by an array of tubes to the droning, beeping machine at his bedside. The eyes that had once sparkled with delight as he bounced grandchildren on his knee now stared blankly at the ceiling, seemingly ready to burst from their sockets. His mouth, frozen in an open grimace, emitted raspy, irregular noises as he fought to breathe. Spittle leaked from one corner of his mouth and dribbled onto the sheet. A ripe stench from the diaper around his middle hung about the bedside, masking the medicinal sickroom smells. As I stood by the bedside, my mind flashed back to the irrepressible man I once knew, and tears flooded my eyes. Bending forward, I planted a soft kiss on his forehead, whispered "I love you, Gramps," and walked slowly away.

Dylan Brandt Chaf in

To develop an effective emotional appeal, identify the stories, scenes, or events of the topic
that arouse the strongest emotional response within you. Do some thinking about the types of words that will best convey the emotion you feel. Then write the section so that it builds to the kind of emotional conclusion that will help your argument.

**THE ETHICAL APPEAL**

Before logic can do its work, the audience must be willing to consider the argument. If a writer’s tone offends the audience, perhaps by being arrogant or mean-spirited, the reasoning will fail to penetrate. But if the writer comes across as pleasant, fair-minded, and decent, gaining reader support is much easier. The image that the writer projects is called the *ethical appeal*.

If you write with a genuine concern for your topic, a commitment to the truth, and a sincere respect for others, you will probably come across reasonably well. When you finish writing, check to see that an occasional snide comment or bitter remark didn’t slip unnoticed onto the page. In the following introductory paragraph, from an essay arguing that many universities violate the Constitution by imposing campus rules that restrict freedom of speech, the student establishes an appealing ethical image:

Most of us would agree that educated people should not indulge in name-calling and stereotyping in their speaking and writing. To do so is an essential mark of irrational prejudice. Nevertheless, such speaking and writing are protected by the United States Constitution, which prohibits anyone from abridging freedom of expression. Today, many colleges and universities, in a well-meaning attempt to shield particular groups from unwelcome or insensitive words, are subverting this prohibition. Former Supreme Court Justice William Brennan, noted for his liberal views, has stated, "If there is a bedrock principle underlying the First Amendment, it is that the government may not prohibit the expression of an idea simply because society finds the idea offensive or disagreeable.”

Linda Kimrev

The writer opposes on constitutional grounds any attempts to ban the excessively rigid, and uncompassion of two forms of "irrational prejudice." Nevertheless, she characterizes fortably self-righteous, often these attempts as "well-meaning" and acknowledges that they are prompted by worthy motives. As a result, she emerges as fair-minded, decent, sensitive, and concerned, an image she maintains throughout the essay.

**FERRETING OUT FALLACIES**

Fallacies are lapses in logic that reflect upon your ability to think clearly, and therefore they weaken your argument. The fallacies described below are among the most common. Correct any you find in your own arguments, and call attention to those used by the opposition.

**HASTY GENERALIZATION**

Hasty generalization results when someone bases a conclusion on too little evidence. The student who tries to see an instructor during one of her office hours, finds her out, and goes away muttering, "She's never there when she should be” is guilty of hasty generalization. Perhaps the instructor was delayed by another student, attended a special department meeting, or went home ill.

Even if she merely went shopping, that's not a good reason for saying she always shirks her responsibility. Several more unsuccessful office visits would be needed to make such a charge stick.

**NON SEQUITUR**

From the Latin "It does not follow," the *non sequitur* fallacy draws unwarranted conclusions from seemingly ample evidence. Consider this example: "Bill's been out almost every night for the last two weeks. Who is she?" These evening excursions, however numerous, point to no
particular conclusion. Bill may be studying in the library, participating in campus organizations, taking night classes, or walking. Of course, he could be charmed by a new date, but that conclusion requires other evidence.

**Stereotyping**

A person who commits this fallacy attaches one or more supposed characteristics to a group or one of its members. Typical stereotypes include "Latins make better lovers," "Blondes have more fun," and "Teenagers are lousy drivers." Stereotyping racial, religious, ethnic, or nationality groups can destroy an argument. The images are often malicious and always offensive to fair-minded readers.

Chapter 13 Argument: Convincing Others

**Card Stacking**

In card stacking, the writer presents only part of the available evidence on a topic, deliberately omitting essential information that would alter the picture considerably. For instance: "College students have a very easy life; they attend classes for only twelve to sixteen hours a week." This statement ignores the many hours that students must spend studying, doing homework and/or research, writing papers, and the like.

**Either/Or Fallacy**

The either/or fallacy asserts that only two choices exist when, in fact, several options are possible. A salesperson who wants you to buy snow tires may claim, "Either buy these tires or plan on getting stuck a lot this winter." But are you really that boxed in? You might drive only on main roads that are plowed immediately after every snowstorm. You could use public transportation when it snows. You could buy radial tires for year-round use. If very little snow falls, you might not need special tires at all.

Not all either/or statements are fallacies. The instructor who checks a student's record and then issues a warning, "Make at least a C on your final or you'll fail the course," is not guilty of a reasoning error. No other alternatives exist. Most situations, however, offer more than two choices.

**Begging the Question**

A person who begs the question asserts the truth of some unproved statement. Here is an example: "Vitamin A is harmful to your health, and all bottles should carry a warning label. If enough of us write the Food and Drug Administration, we can get the labeling we need." But how do we know vitamin A does harm users? No evidence is offered. People lacking principles often use this fallacy to hit opponents below the belt: "We shouldn't allow a right-wing sympathizer like Mary Dailey to represent us in Congress." Despite a lack of suitable evidence, voters often accept such faulty logic and vote for the other candidate.

**Circular Argument**

Circular argument, a first cousin to begging the question, supports a position merely by restating it. "Pauline is a good manager because she runs the company effectively" says, in effect, that "something is because something is." Repetition replaces evidence.

**Arguing off the Point**

The writer who argues off the point, which is sometimes called "ignoring the question" or "a red herring," sidetracks an issue by introducing irrelevant information. To illustrate: "The Ford Thunderbolt is a much better value than the Honda Harmony. Anyway, far too many foreign cars are coming into the country. As a result, thousands of auto workers have lost their jobs and had to take
lower-paying jobs. Many Americans strongly oppose this state of affairs." The writer sets out to convince us that the American car is superior in value but then abruptly shifts to the plight of downsized auto workers—a trend that has no bearing on the argument.

**THE ARGUMENT AD HOMINEM**

The Latin term "to the man" designates an argument that attacks an individual rather than that individual's opinions or qualifications. Note this example: "Sam Bernhard doesn't deserve promotion to personnel manager. His divorce was a disgrace, and he's always writing letters to the editor. The company should find someone more suitable." This attack completely skirts the real issue—whether Sam's job performance entitles him to the promotion. Unless his personal conduct has caused his work to suffer, it should not enter into the decision.

**APPEAL TO THE CROWD**

An appeal of this sort arouses an emotional response by playing on the irrational fears and prejudices of the audience. Terms like communists, fascists, bleeding hearts, right-winger, welfare chiseler, and law and order are tossed about freely to sway the audience for or against something. Consider:

> The streets of our country are in turmoil. The universities are filled with students rebelling and rioting. Communists are seeking to destroy our country. Russia is threatening us with her might, and the public is in danger. Yes, danger from within and without. We need law and order. Yes, without law and order our nation cannot survive. Elect us, and we shall by law and order be respected among the nations of the world. Without law and order our republic shall fall.

Tapping the emotions of the crowd can sway large groups and win acceptance for positions that rational thinking would reject. Think what Adolf Hitler, the author of the foregoing excerpt, brought about in Germany.

**GUILT BY ASSOCIATION**

This fallacy points out some similarity or connection between one person or group and another. It tags the first with the sins, real or imagined, of the second. The following excerpt from a letter protesting a speaker at a lecture series illustrates this technique:

> The next slated speaker, Dr. Sylvester Crampton, was for years a member of the Economic Information Committee. This foundation has very strong ties with other ultraright-wing groups, some of which have been labeled fascist. When he speaks next Thursday, whose brand of Americanism will he be selling?

**POST HOC, ERGO PROPTER HOC**

The Latin meaning, "after this, therefore because of this," refers to the fallacy of assuming that because one event follows another, the first caused the second. Such shoddy thinking underlies many popular superstitions ("If a black cat crosses your path, you'll have bad luck") and many connections that cannot be substantiated ("I always catch cold during spring break"). Sometimes one event does cause another: A sudden thunderclap might startle a person into dropping a dish. At other times, coincidence is the only connection. Careful thinking will usually lay far-fetched causal notions to rest.

**FAULTY ANALOGY**

This is the error of assuming that two circumstances or things are similar in all important respects, when in fact they are not. Here's an example: Harvey Thompson, high school football coach, tells his players, "Vince Lombardi won two Super Bowls by insisting on perfect execution of plays and enforcing strict disciplinary measures. We're going to win the conference championship by following the same methods." Thompson assumes that because he
and Lombardi are coaches, he can duplicate Lombardi's achievements by using Lombardi's methods. Several important differences, however, mark the two situations:

1. Lombardi had very talented players, obtained through the player draft or trades; Thompson can choose only from the students in his high school.
2. Lombardi's players were paid professionals who very likely were motivated, at least in part, by the financial rewards that came from winning the Super Bowl; Thompson's players are amateurs.
3. "Perfect execution of plays" is probably easier to attain on the professional level than in high school because of the players' experience.
4. Despite Lombardi's rigid disciplinary measures, very few of his players quit, perhaps because they were under contract. Could Thompson expect his players, essentially volunteers, to accept the kind of verbal and physical rigors Lombardi was famous for?

**ETHICAL ISSUES**

When writing an argument we attempt to alter attitudes or spark some action. These objectives create an ethical responsibility for both the quality and the possible consequences of our arguments. Suppose a doctor writing a nationally syndicated advice column recommends an over-the-counter herbal product but fails to disclose that it may cause a serious reaction in users who also take a certain prescription drug. Clearly this writer has acted irresponsibly and risks legal action if some readers suffer harm. Asking and answering the following questions will help you avoid any breach of ethics.

- Have I carefully considered the issue I'm arguing and the stance I'm taking? Since you're trying to convince readers to adopt your views, you'll need either to make sure they are credible or make very clear that your position is tentative or dependent on certain conditions.
- Am I fair to other positions on the issue? Careless or deliberate distortion of opposing views is ethically dishonest and could raise questions about your credibility.
- Are my reasons and evidence legitimate? Presenting flawed reasons as if they were credible or falsifying evidence are attempts to deceive the reader.
- Do I use fallacies or other types of faulty thinking to manipulate the reader unfairly?
- What consequences could follow if readers adopt my position? Say a writer strongly opposes genetically modified foods and advocates disrupting installations that help develop them. If some who agree act on the recommendation, innocent people could be injured.
WRITING AN ARGUMENT

PLANNING AND DRAFTING THE ARGUMENT

Some instructors assign argumentative topics, and some leave the choice of topic to you. If you will be choosing, many options are available. Interesting issues—some local, some of broader importance—crowd our newspapers, magazines, and TV airways, vying for attention. Because several of them have probably piqued your interest, there's a good chance you won't have to rely on the strategies on pages 27-33 for help in choosing your topic.

FOCUSING YOUR QUESTION

As you explore your topic you should be prepared to focus your question. You may begin to examine whether you should support or oppose gun control, but you will soon begin to discover there are hundreds of related, narrower questions. Does the right to carry concealed weapons reduce crime? How should the Second Amendment be interpreted? Should guns be registered? Does the Brady Bill work? Do background checks deter criminals from purchasing guns? Should there be a ban on automatic and semiautomatic weapons? You may discover that one of your related questions is more than enough of a subject.

Some students approach an argument with such strong attitudes that they ignore evidence that contradicts their thinking. Don't make this mistake. Instead, maintain an open mind as you research your issue, and then, after careful thought, choose the position you'll take. Often, several possible positions exist. On the question of whether handguns should be banned, the positions might include (1) banning the possession of handguns by anyone except law officers and military personnel, (2) eliminating all restrictions on handgun possession, (3) banning handguns for persons with criminal records or a history of mental problems, and (4) banning certain types of handgun, such as "Saturday night specials" and all-plastic handguns. Even if you don't shift your position, knowing the opposition's strengths allows you to counter or neutralize it, and thus enhance your argument. Suppose you favor the first position. You need to know that half of our state constitutions grant citizens the right to own guns. Unless you acknowledge and somehow counter this fact, your case will suffer and perhaps even founder.

EXPLORING YOUR TOPIC

You never really start an argument with a blank page. There is almost always an ongoing conversation about the issue. Before you enter a conversation, it helps to be informed. You can do research by reading. If your paper is based on sources, you may want to review Chapters 21 and 22 for ideas and information about proper documentation. You may want to talk to others to get their views on the matter. Or you might make your own formal or informal observations; if so, you may be helped by the Chapter 23 about additional research strategies.

As you investigate the various positions, ask and answer the following questions about each:

What are the reasons for the various positions?
What values are at stake, and what conclusions do they imply?
What shared ideas do we accept, and what can be deduced from those ideas?
What kinds of evidence support the position?
If the evidence includes statistics and authoritative opinions, are they reliable or flawed for some reason?
What are the objections to each position, and how can they be countered? If the issue involves taking some action, what might be its consequences?

Some find it useful to create a table like the following to sort out the different positions.

| Ban Handguns | Allow Possession of | Allow Possession of |
Handguns

Handguns but Registered and for Justified Purposes

Values Related to the Position
♦ People have the right to be protected from potential harm from others.
♦ Right to self-protection
♦ Broad interpretation of Second Amendment
♦ Persons could protect self and home.
♦ Commonly register cars and other significant property.

Reasons
♦ Handguns result in accidental shootings.
♦ Could cause increase in emotional killings.
♦ Could create increased risk to public safety.
♦ Persons could protect self and home.
♦ A combination of the reasons from the first two.

Evidence
♦ Statistics and examples of accidental shootings.
♦ Statistics on overall crime rates.
♦ Statistics on states with right-to-carry laws.
♦ Examples of emotional uses of handguns.
♦ Examples of when guns prevented crimes.
♦ Statistics comparing right-to-carry states with other states.
♦ People have a constitutional right.
♦ Guns need to be kept out of the hands of unstable or dangerous people.
♦ The evidence on the first two.

Objections
♦ Is the position unconstitutional?
♦ Aren't there other interpretations of the Second Amendment?
♦ Who should really get to say who should have handguns?
♦ Don't criminals get guns anyway?
♦ Why do police groups often oppose this position?
♦ Can't a registration process be misused?
♦ How often are legitimately owned guns misused?
♦ Can't criminals or others find illegal ways to get guns?

Obviously, this table is far from complete, and the writer would need to supply the actual evidence and flesh out the reasons. Still, such a table can be a useful device in sorting out and organizing an argument.

Another effective technique for developing an argument is to write a dialogue between two or more people that explores the various sides of an issue without trying to arrive at conclusion. The beginning of such a dialogue on a handgun ban might look like the following:

Doug: We need a ban on handguns. The United States has the highest murder rate in the industrialized world and the largest number of people owning guns. This is no coincidence. A handgun makes it easy to kill people.

Leslie: Are handguns really the cause of the high murder rate? Just owning a gun doesn't make someone kill. Most legitimate handgun owners will
never use their guns on another human being. Many people kill with illegal weapons, including already banned semiautomatic weapons. So it isn't clear that a ban would actually prevent murders.

Kyra: I don't think a ban on handguns would prevent a black market in guns. Drugs are illegal and seem to be readily available.

Doug: I didn't say a ban on handguns would prevent all murders.

Writing such a dialogue can help start your mental juices flowing, help you see the issue from many sides, and help you develop effective material for your paper.

ARGUMENTS FOR DIFFERENT PURPOSES

As you contemplate your position and evidence, consider the purpose of your argument and how that might affect the strategies you choose to employ. Arguments are written for several purposes, each requiring a different approach. Some arguments try to establish that something is a fact—nursing is hard work, dormitories are poor study places, bologna is an unhealthy food. This type of paper usually relies on assorted evidence, perhaps some combination of statistics, authoritative opinion, and personal experience. To prove that nursing is quite demanding, you might narrate and describe some of the strenuous activities in a typical nursing day, cite hospital nursing supervisors who verify the rigors of the job, and perhaps give statistics on nurses who quit the profession because of stress.

Other arguments defend or oppose some policy—for example, whether first-year students should be allowed cars on campus or a company should begin drug-testing its employees—or support or oppose some action or project, such as the construction of a study lounge for students or the addition of computer equipment with Internet links to more classrooms. In this type of paper, you usually discuss the need for the policy or action, how it can best be met, the cost or feasibility of your recommendation, and the benefits that will result. For instance, if you believe your college needs more computer-equipped classrooms, you might indicate how computers are currently used in some classrooms (to show PowerPoint presentations, offer clips from DVDs, demonstrate how to use computer applications, link to the Web to provide important illustrations), compare the number of classrooms equipped with the number not equipped, indicate the costs of equipping classrooms with computers and projectors, calculate the number of classes that would be able to use the new equipment, and demonstrate the ways teachers and students would benefit.

Still other arguments assert the greater value of someone or something, as when a supervisor ranks one candidate for promotion ahead of another. To write this type of paper, generally you would indicate what you're trying to prove; identify the points on which the items will be evaluated; and then, using reasons along with details, examples, or statistics, demonstrate that one of the items has greater worth than the other. Often such an argument will be deductive as you show how your conclusions follow from agreed-upon values.

DIRECTING ARGUMENTS TO READERS

With an argument, as with any essay, purpose and audience are closely linked. For example, imagine that your audience is a group of readers who are neutral or opposed to your position; there's no point in preaching to the converted. Take a little time to analyze these readers so that you can tailor your arguments appropriately. Pose these questions as you proceed:

What are the readers' interests, expectations, and needs concerning this issue.
What evidence is most likely to convince them?
What objections and consequences would probably weigh most heavily with them?
How can I answer the objections?

To convince an audience of farmers that the federal school lunch program needs expanding, you might stress the added income they would gain. For nutritionists, you might note the health benefits that would result, and for school officials, the improved class performance of the
students. Even though you are unlikely to convince everyone, it is best to adopt the attitude that most readers are willing to be convinced if your approach is appealing and your evidence is sound.

**ROGERIAN ARGUMENTS**

If you're arguing an emotionally charged issue such as gun control or federally funded abortions for the poor, you may want to use *Rogerian argument*. Named for psychologist Carl Rogers, this type of argument attempts to reduce the antagonism that people with opposing views might feel toward your position. To succeed, you must show that you understand and respect the opposing position as well as acknowledge its good points. You try to establish some common point outside source material of agreement, then show how the conclusion you want really follows from the reader's own values and assumptions without compromising your own. For example, if you want stricter gun-control laws, you might begin by acknowledging that the Constitution grants citizens the right to bear arms and that you believe anyone with legitimate uses for guns—hunters, target shooters, and the like—should have access to them. Moving on, you might point out that gun owners and those who agree with the Second Amendment support the proper, safe use of firearms and are concerned about firearm abuse. You might then possibly agree with the premise that people, rather than guns themselves, kill people, and for that reason, no one wants criminals to have guns. Finally, you might demonstrate that requiring computer background checks before issuing handgun permits would deprive criminals of such weapons while protecting the constitutional right to bear arms.

**EXPLORATORY ARGUMENT**

You do not always have to write an argument to forcefully convince someone. You can also write more to share with your reader how you came to your conclusion. This form of discussion allows you to indicate your doubts about your own position, explain why certain reasons and evidence have weight for you, include personal reasons that influenced you, and address alternative positions and arguments that may tempt you. The goal in such an argument is really to provide the readers with your thinking on the matter; if they are convinced along the way, so much the better. Below is a short excerpt of what a section of an answer to the sample student argument essay (page 194) might look like.

While the authors of the Bill of Rights may have intended the Second Amendment to allow all citizens the right to bear arms, the amendment was drafted in a very different period of our history. We had just won a revolutionary war that had depended on a citizen army. Americans faced real threats from the native population and other armed groups. Their weapons were different as well. Citizens mostly owned a muzzle-loading musket that was slow and cumbersome to use, as well as inaccurate. It would seem that understanding the intent of these authors would require us to understand the historical period shaping their vision, a period when a well-ordered militia seemed essential. What would they make, then, of our current situation where the threat we face is almost always from fellow citizens and the power of today's guns would have been unimaginable?

Exploratory essays do not need to be informal or personal. An academic paper that considers the political influences on TV programming may make little use of the personal pronoun and yet still explain tentative ideas and show connections in an exploratory rather than strictly argumentative fashion. Sometimes it can be useful to write out an exploratory essay to find your position before you craft a more focused argument.

**DRAFTING THE ARGUMENT**

When you have a good grasp on your position, reasons, evidence, and the approach you want to take, you're ready to draft your paper. A typical introduction arouses the reader's interest and may also present the proposition—a special thesis statement that names the issue and indicates which position the writer will take. It can declare that something is a fact, support a policy, call
for a certain action, or assert that something has greater value than something else. Here are examples:

1. Carron College does not provide adequate recreational facilities for its students. *(Declares something is fact.)*
2. Our company's policy of randomly testing employees for drug use has proved effective and should be continued. *(Supports policy.)*
3. Because the present building is overcrowded and unsafe, the people of Midville should vote funds for a new junior high school. *(Calls for action.)*
4. The new Ford Fire-Eater is superior to the Honda Harmony in performance and economy. *(Asserts value.)*

Any of the techniques on pages 222-224 can launch your paper. For example, in arguing for stepped-up AIDS education, you might jolt your reader by describing a dying victim. If your issue involves unfamiliar terms, you might define them up front; and if the essay will be long, you could preview its main points.

Introductions can also take other tacks. In a Rogerian argument, you may want to start by affirming the reader's core values or beliefs on which you build your argument. In an exploratory essay, you might raise the core question you will discuss without taking position.

After the introduction comes the evidence, arranged in whatever order you think will work best. If one of your points is likely to arouse resistance, hold it back and begin by making points your reader can more easily accept. Argument always goes more smoothly if you first establish some common ground of agreement that recognizes the values of your reader. Where strong resistance is not a factor, you could begin or end with your most compelling piece of evidence.

The strategies discussed in earlier chapters can help you develop an argument. Some papers incorporate one strategy, while others rely on several. Let's see how you might combine several in an argument against legalized casino gambling. You might open with a brief description of the frantic way an all-too-typical gambling addict keeps pulling the lever of a slot machine, his eyes riveted on the spinning dials, his palms sweating, as flashing lights and wailing sirens announce winners at other machines. Next, you could offer a brief definition of gambling fever so that the writer and reader are on common ground, and, to show the dimensions of the problem, classify the groups of people who are especially addicted. Then, after detailing the negative effects of the addiction, you might end by comparing gambling addiction with drug addiction, noting that both provide a "high" and both kinds of addict know their habits hurt them.

Whatever strategies you use, make sure that substantiating evidence is embedded in them. Strategies by themselves won't convince. To illustrate, in discussing the negative effects of gambling, you might cite statistics that show the extent and nature of the problem. An expert opinion might validate your classification of addicts. Or you might use personal experience to verify gambling's addictive effects.

Besides presenting evidence, use this part of your paper to refute, that is, to point out weaknesses or errors in the opposing position. You might try the following:

- **Point out any evidence that undermines that position.** If one viewpoint holds that drug testing violates cherished privacy rights, you might note that employers already monitor phone calls, check employees' desks, and violate privacy in other ways.

- **Identify faulty assumptions and indicate how they are faulty: they don't lead to the implied conclusion, they lack die effectiveness of an alternative, or they are false or unsupported.** If you oppose drug testing, you could point out problems in the assumption that such tests are necessary to protect the public. Closer supervision of work performance might be a better protection; after all, fatigue, stress, negligence, and alcohol abuse can all result in serious problems, and they are not detected by drug tests.

- **Identify problems in the logic of the argument.** Are there missing premises, faulty
connections between reasons, or conclusions that don't follow from the premises? The argument against drug testing usually proceeds by asserting that privacy is a fundamental right, that drug testing violates privacy, and that therefore drug testing should not be allowed. There is a missing premise, however: that because privacy is a fundamental right it should never be violated. This premise is, in fact, at the heart of the dispute and therefore cannot be accepted as a reason to disallow drug testing.

You can place refutations throughout the body of the paper or group them together just ahead of the conclusion. Whatever you decide, don't adopt a gloating or sarcastic tone that will alienate a fair-minded reader. Resist the urge to engage in straw man tactics—calling attention to imaginary or trivial weaknesses of the opposing side so that you can demolish them. Shrewd readers easily spot such ploys. Finally, don't be afraid to concede secondary or insignificant points to the opposition. Arguments have two or more sides; you can't have all the ammunition on your side. (If you discover you must concede major points, however, consider switching sides.) Here is a sample refutation from a student paper:

Not everyone agrees with workplace drug testing for employees in public transportation companies, electric utilities, nuclear power plants, and other industries involving public safety. Critics assert that such tests invade privacy and therefore violate one of our cherished freedoms. While the examination of one's urine does entail inspection of something private, such a test is a reasonable exception because it helps ensure public safety and calm public fears. Individuals have a right to be protected from the harm that could be caused by an employee who abuses drugs. An airline pilot's right to privacy should not supersede the security of hundreds of people who could be injured or killed in a drug-induced accident. Thus the individual's privacy should be tempered by concern for the community—a concern that benefits all of us.

Annie Louise Griffith

Conclude in a manner that will sway the reader to your side. Depending on the argument, you might restate your position, summarize your main points, predict the consequences if your position does or doesn't prevail, or make an emotional appeal for support or action.

There can be more than one pattern for an argument. Below are three examples.

**Example 1**
Introduction
Definition of the issue (optional)
Your reasons and evidence (can be a large number of paragraphs)
Objections or questions and answers to both (can be several paragraphs)
Conclusion

**Example 2**
Introduction
Definition of the issue (optional)
Your reasons and evidence (can be a large number of paragraphs)
Objections or questions and answers to both (can be several paragraphs)

**Example 3**
Introduction
Definition of the issue (optional)
Common objections or questions and answers to both
Your reasons and evidence
Conclusion

You are not limited to these patterns. Alternative positions and objections can be discussed and answered within the context of presenting your own reasons. An argument can be built around answering common questions. A Rogerian argument starts by affirming the reader's core values
and beliefs and then shows deductively and by supporting evidence how those values and beliefs yield the conclusion you hope to support.

**REVISING THE ARGUMENT**

Review the guidelines in Chapter 4 and ponder these questions as you revise your argument paper:

- Is my topic controversial? Have I examined all of the main positions? Assessed the evidence supporting each one? Considered the objections to each position and how they can be countered? Weighed the consequences if a position involves taking some action?
- Is the paper aimed at the audience I want to reach? Have I tailored my argument to appeal to that audience?
- Is my evidence sound, adequate, and appropriate to the argument? Are my authorities qualified? Have I established their expertise? Are they biased? Will my audience accept them as authorities? Do my statistics adequately support my position? Have I pushed my statistical claims too far?
- If I've used analogy, are my points of comparison pertinent to the issue? Have I noted any significant differences between the items being compared?
- If I've included an emotional appeal, does it center on those emotions most likely to sway the reader?
- Have I made a conscious effort to present myself in a favorable light?
- Is my proposition clearly evident and of the appropriate type—that is, one of fact, policy, action, or value? If the proposition takes the form of a syllogism, is it sound? If faulty, have I started with a faulty premise? Reversed the last two statements of the syllogism?
- Is my evidence effectively structured? Have I adequately refuted opposing arguments? Developed my position with one or more writing strategies?
- Is my argument free of fallacies?
- Have I considered appropriate ethical issues?

**SAMPLE STUDENT ESSAY OF ARGUMENT**

The Right to Bear Arms

*Bzenda Buehrle*

1. The right of citizens to bear arms is often discussed in heated tones and emotional language. Political assassinations, for example, inevitably spark an outcry for control of firearms, as do workplace and school shootings. These appeals are frequently countered by jingles such as "When guns are outlawed, only outlaws will have guns." If we bypass such pleas and examine the issue from a constitutional perspective, we find that there is ample legal justification for the right to bear arms.

2. The first thing we should consider is the original intent of the Second Amendment to the United States Constitution, which states: "A well-regulated militia being necessary to the security of a free State, the right of the people to keep and bear arms shall not be infringed." When the purpose of any constitutional provision or law is in question, a good procedure is to return to the thoughts and words of those who originally framed it. For the Second Amendment, it is necessary to examine the ideas of George Mason, the Virginia constitutionalist. Mason wrote several specific safeguards of individual rights into the Virginia constitution of 1776. The Bill of Rights—that is, the first ten amendments added to the United States Constitution in 1791—incorporates many of Mason's safeguards. R. A. Rutland's edition of Mason's papers reveals clearly that his conception of the militia—that group empowered by law to bear arms—went far beyond an organized group of men in
uniform. During a debate in Richmond on June 16,1788, Mason rhetorically said, "I ask, who are the militia?" and then answered his own question with these words: "They consist now of the whole people, except a few public officials." There can be little doubt that George Mason, "father of the Bill of Rights," never intended to restrict the right to bear arms to a relatively few men in uniform. Therefore, the original concept of the Second Amendment was that the militia consisted of all people; and to ensure security of a free country, the people had the right to keep and bear arms.

Early in this century Congress interpreted the militia more narrowly than Mason did. On January 23,1903, Congress defined the militia as all able-bodied male citizens more than eighteen and less than forty-five years of age. These men were divided into two classes: the organized militia, to be known as the National Guard of the State, Territory, or District of Columbia, and the remainder, to be known as the Reserve Militia. Thus, the Congress classified all males within certain age limits, and not in the National Guard, as members of the militia. These men would now seem to be the "people to keep and bear arms" whose right to firearms "shall not be infringed" under the Second Amendment. Furthermore, under the broad doctrine of equal rights, it would appear that women should also be included, if they fall into the proper age groups eligible for military service.

Since no provision of the United States Constitution defines the rights of gun owners throughout the fifty states, the state constitutions certainly would seem to be the highest law in such cases, as provided in the Ninth and Tenth Amendments. These reserve to the states and the people all rights and powers not spelled out in the United States Constitution. Because the Second Amendment does not definitely state the rights of gun owners, the federal government cannot alter the rights that are defined in individual state constitutions. At least half of these state constitutions go beyond the Second Amendment by spelling out that the right to bear arms is an individual right for personal protection or defense of home and property and has nothing to do with a "well-regulated militia." Among these states are Arizona, Michigan, and Pennsylvania. For example, Arizona's constitution states, "The right of the individual citizen to bear arms in defense of himself or the State shall not be impaired… " Michigan's says, "Every person has a right to keep and bear arms for the defense of himself and the State." Pennsylvania's constitution is emphatic: "The right of the citizens to bear arms in defense of themselves and the State shall not be questioned." Given such declarations, the states with these and similar provisions could not possibly prohibit ownership of handguns or any other arms.

It should be clear that the Second Amendment was not originally intended to apply only to militia but to the "whole people." In addition, Congress has indicated that the militia consists of all able-bodied young and middle-aged males (and now perhaps females also). Furthermore, 50 percent of the state constitutions define and protect the rights of individual gun owners. Is it not evident that the right to bear arms is rooted in solid legal precedent?

**DISCUSSION QUESTIONS**

1. Identify the writer's proposition. Is it one of fact, policy, action, or value?
2. What type of evidence does the writer use in her argument?
3. Reread the last two sentences in paragraph 3. Indicate why the phrasing "would now seem" and "it would appear" is appropriate here.
4. What type of conclusion does the writer use? Why is the question that ends it effective?

**SUGGESTIONS FOR WRITING**

*Write a properly focused argument on some topic you feel strongly about. Study all sides of the issue so you can argue effectively and appeal to a particular audience. Support your proposition with logical evidence. Here are some possibilities to consider if your instructor gives you a free choice:*
1. Compulsory composition classes in college
2. Requiring safety locks on firearm triggers
3. Prohibiting development of private property to save endangered species
4. Prayer in public schools
5. Some aspect of Native American or Hispanic affairs
6. Filters on Internet stations at public libraries
7. Legalizing marijuana for medical purposes
8. Gay rights
9. Coed military training
10. Bilingual instruction in schools
11. The effectiveness of some kind of alternative medicine (or some particular diet)
12. Coping with school violence
13. Taxpayer funding for professional athletic facilities
14. Use of animals for research
15. A campus, local, or state issue
16. A national missile defense system
17. Privatizing a small portion of social security payroll taxes
18. Publicly funded private school vouchers
19. U.S. participation in peace-keeping missions
20. Virtual universities where all classes are conducted on the Internet

**CRITICAL EDGE**

A successful argument, by its very nature, requires critical thinking. This chapter has given you the tools you'll need to test the logic and evaluate the evidence offered in support of argumentative positions. After all, rarely will you generate an idea on your own and then argue for it. Instead, because most important issues have already been debated in print, you'll enter a discussion that's already under way. Sometimes it's on a topic of national interest, such as the desirability of politically correct speech and writing or the need to limit the number of terms elected officials can serve. At other times, the topic may be more localized: Should your state outlaw teacher strikes, your company install new equipment to control air pollution, or your college reduce its sports programs? On any of these issues you begin to form your own view as you read and assess the arguments of other writers.

A good way to take stock of conflicting opinions is to make a chart that summarizes key reasons and evidence on each side of the argument. Here is a segment of a chart that presents opposing viewpoints on whether industrial air pollution poses a significant threat of global warming:

<table>
<thead>
<tr>
<th>Pro-threat side</th>
<th>No-threat side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial emissions of carbon dioxide, methane, and chlorofluorocarbons let sun's rays in but keep heat from escaping.</td>
<td>Natural sources account for almost 50 percent of all carbon dioxide production. Dixy Lee Ray</td>
</tr>
<tr>
<td>Atmospheric levels of carbon dioxide are now 25 percent higher than in 1860. Computer models indicate a continuing rise will cause a temperature increase of 3-9°F. Andrew C. Revkin</td>
<td>The computer models are inaccurate, don't agree with each other, and fail to account for the warming effects of the oceans. H. E. Landsberg</td>
</tr>
</tbody>
</table>

Even though you investigate the reasons and evidence of others, deciding what position to take and how to support it—that is, establishing your place in the debate—is the real work of synthesis. (See pages 82-83.) Therefore, after evaluating your sources, outline the main points you want to make. You can then incorporate material that supports your argument. Let's say that you're considering the issue of global warming. After examining the differing viewpoints, you
might conclude that although those who believe that global warming is occurring sometimes overstate their case, those who disagree tend to dismiss important scientific evidence. Because global warming is a serious possibility if not a certainty, you decide to argue for immediate environmental action. You might begin your paper by pointing out the dire consequences that will ensue if global warming becomes a reality, then offer evidence supporting this possibility, acknowledge and answer key opposing viewpoints, and finally offer your recommendations for averting a crisis.¹

**SUGGESTIONS FOR WRITING**

1. Read several sources that explore the problem of spouse abuse and write an argument that incorporates the views expressed in the sources and suggests the extent of the problem.
2. Read several sources that take different positions on the question of whether the United States should be "the world's police officer" and write an argument that draws on those sources.
3. Read several sources that explore the issue of children suing parents or guardians for physical or sexual abuse and then write an argument that incorporates the views expressed in those sources.

¹ Before starting to write this type of paper, it is important to read the sections on card catalogs and periodical indexes in Chapter 21 and those on handling quotations and avoiding plagiarism in Chapter 22. As always, follow your instructor's guidelines for documenting sources.
THE RESEARCH PAPER

Scene: A dark, sinister-looking laboratory. In the center of the stage stands a large laboratory bench crowded with an array of mysterious chemistry apparatus. Tall, cadaverous, and foreboding, Dr. Frankenslime leers as he pours the contents of a tube through a funnel and into a bubbling flask. A short, hunched-over figure looks on with interest. Suddenly the doctor spreads his arms wide and flashes a sardonic smile.

Frankenslime: Igor! At last! At last I've got it! With this fluid, I can control . . .

Research yes. But not all researchers are mad scientists, or scientists, or even mad. You might not be any of these things, but no doubt you'll be asked to prepare a library research paper for your composition class. This assignment calls for you to gather information from a variety of sources and then to focus, organize, and present it in a formal paper that documents your sources. The procedure will familiarize you with the mechanics of documentation, and when you finish you'll have a solid grasp of your topic and pride in your accomplishment. In addition, the experience will help you learn how to meet the research demands of other courses and your job.

For many students, the thought of writing a research paper triggers feelings of anxiety and fears of drudgery. Some feel overwhelmed by the amount of material in a college library and the need to make a lengthy search for useful information. Others doubt that they could have anything more to say about any topic they might choose: What's the point of simply rehashing what experts have already said much better? Still others are daunted by how much there might actually be to say about their topic.

But writing a research paper really isn't so formidable. You can acquaint yourself with the various library resources that will provide easy access to the information you need. Reading what others have written on a topic will give you a chance to draw your own conclusions. And as a writer you can limit your topic so that it doesn't balloon out of control.

Research writing is common both in the classroom and on the job. A history professor might require a long report on the causes of the Vietnam War. A business instructor might ask you to trace the history of a company, evaluate an advertising campaign, or review the latest styles of management. A building trades instructor might call for a short report that compares the effectiveness of several new insulating materials. At work, a marketing analyst might report on the development costs, sales potential, and competition for a product the company is considering introducing. An engineer might write a journal article that summarizes recent developments in plastic fabrication. A physical therapist might prepare a seminar paper that evaluates different exercise programs to follow arthroscopic surgery.

Whatever the writing project, let your purpose guide your research and determine the information you elect to use. When you write, the conclusions you have reached from thinking about what you have read and your purpose in communicating, not your notes, should dictate what you say.

LEARNING ABOUT YOUR LIBRARY

Before starting a library research paper, take time to familiarize yourself with your library. Many college libraries offer guided tours, and almost all of them display floor plans that show where and how the books are grouped. If your library doesn't have tours, browse through it on your own and scan its contents. As you do, note the following features:

Card Catalog: The card catalog indexes the library's books and often most of its other holdings as well. Most colleges now have computerized card catalogs. Pages 327-332 discuss computerized catalogs.

Computerized Databases: These databases, like printed periodical indexes, provide listings of articles in magazines and newspapers, and some even provide the full text of the
article. Information may be on compact discs or transmitted to the library by wire from another location. Pages 334-339 discuss databases.

**Computers with Internet Access:** These computers connect users to a worldwide network of organizations and individuals, providing access to an almost endless variety of information. Pages 339-346 discuss the Internet.

**Stacks:** These are the bookshelves that hold books and bound periodicals (magazines and newspapers). Stacks are either open or closed. Open stacks allow you to go directly to the books you want, take them off the shelf, and check them out. Closed stacks do not allow you direct access to shelved material. Instead, a staff member brings you what you want.

**Periodical Area:** Here you'll find current and recent issues of magazines and newspapers. If your topic calls for articles that have appeared within the last few months, you're likely to find them in this area.

**Microfilm and Microfiche Files:** Microfilm is a filmstrip bearing a series of photographically reduced printed pages. Microfiche is a small card with a set of photographically reduced pages mounted on it. Often, most of a library's magazine and newspaper collection is on film. Ask a librarian how to work the viewing machines. Once you can run them, you'll have access to many library resources.

**Circulation Desk:** Here's where you check materials in and out, renew books you want to keep longer, and pay overdue fines. If you can't find something you want, the desk clerk will tell you whether it's missing, on reserve, or checked out. If it's out, fill out a hold card, and the library will notify you when it is available.

**Reserve Area:** This area contains books that instructors have had removed from general circulation so students can use them for particular courses. Ordinarily, you can keep these books for only a few hours or overnight.

**Reference Area:** This area houses the library's collection of encyclopedias, periodical indexes, almanacs, handbooks, dictionaries, and other research tools that you'll use as you investigate your topic. You'll also find one or more reference guides—Eugene P. Sheehy's *Guide to Reference Books* (1996), for example—that direct you to useful reference tools. To ensure that these books are always available, they must be used in the library. Someone is usually on duty to answer questions.

**Choosing a Topic**

Instructors take different approaches to assigning library research papers. Some want explanatory papers, other want papers that address a two-sided question, and still others allow students a free choice. An explanatory paper takes no position but provides information that gives the reader a better grasp of the topic. For example, it may explain the key advantages of solar heating, thereby clearing up popular misconceptions. An argument paper, on the other hand, attempts to sway the reader toward one point of view—for instance, that solar heat is commercially feasible. Some instructors specify not only the type of paper but also the topic. Others restrict students to a general subject area, ask them to pick topics from lists, or give them free choice. If you have little to say in the selection, take a positive view: At least you won't have to wrestle with finding a topic.

Whatever the circumstances, it's a good idea to follow a pacing schedule that establishes completion dates for the various stages of your paper. Such a timetable encourages you to plan your work, clarifies both your progress and the work remaining, and provides an overview of the project. You can use the following sample schedule as a guide, modifying the stages or adding other ones as necessary.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Targeted Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic selection</td>
<td></td>
</tr>
<tr>
<td>Working Bibliography</td>
<td></td>
</tr>
</tbody>
</table>
If you have free rein to pick your topic, how should you proceed? To begin, rule out certain types of topic.

- Those based entirely on personal experience or opinion such as "The Thrills I Have Enjoyed Waterskiing" or "Colorado Has More [or Less] Scenic Beauty than New Mexico." Such topics can't be supported by library research. Don't hesitate, however, to include personal judgments and conclusions that emerge from your reading.
- Those fully explained in a single source. An explanation of a process, such as cardiopulmonary resuscitation, or the description of a place, such as the Gobi Desert, does not require coordination of materials from various sources. Although you may find several articles on such topics, basically they all contain the same information.
- Those that are brand new. Often it's impossible to find sufficient source material about such topics.
- Those that are overly broad. Don't try to tackle such elephant-sized topics as "The Causes of World War II" or "Recent Medical Advances." Instead, slim them down to something like "How Did Germany's Depression Contribute to the Rise of Hitler?" or "Eye Surgery with Laser Beams."
- Those that have been worked over and over, such as abortion and the legal drinking age. Why bore your reader with information and arguments that are all too familiar already?

**DRAWING ON YOUR INTERESTS**

Let your interests guide your choice. A long-standing interest in basketball might suggest a paper on the pros and cons of expanding the number of teams in the National Basketball Association. An instructor's lecture might spark your interest in a historical event or person, an economic crisis, a scientific development, a sociological trend, a medical milestone, a political scandal, or the influences on an author. An argument with a friend might spur you to investigate latch-key children. A television documentary might arouse your curiosity about a group of primitive people. A recent article or novel might inspire you to explore the occult or some taboo.

Be practical in selecting a topic. Why not get a head start on a particular aspect of your major field by researching it now? Some management, marketing, or advertising strategy; the beginnings of current contract law; medical ethics—all of these topics, and many others, qualify. Think about your audience, the availability of information, and whether you can fit it into the guidelines for your paper.

To develop a focus for your paper, it's often helpful to brainstorm, skim encyclopedia articles and other materials, and use the branching or clustering technique. If you're exploring the topic of child abuse, preparing a clustering diagram like the one in Figure 21.1 can help you decide how to narrow your topic as well as provide a rough map of areas to research. The more you brainstorm, the richer your map will be. Brainstorming often results in a series of questions, perhaps based on the writing strategies discussed in Chapters 5-13, that will help guide your research. Often it is helpful to state your main research question, followed by a series of related questions that elaborate on it. From our cluster example, a student wishing to explore the topic of psychological abuse might develop the following set of questions:
What can be done to help victims of psychological abuse?
What is psychological abuse?
What long-term and short-term effects does it have on a child?
How can a child living at home be helped?
Are there services to help limit the abuse?
Is family therapy an option?
What is family therapy, and what does it do?
What psychological help is available for an adult who experienced childhood abuse?
What therapies work best?
What do they do?
How effective are they?

These questions make research easier. After all, the purpose of research is to answer questions. Later, as you examine source material, you will be seeking specific answers, not just randomly searching for information.

Encyclopedias are usually neither current enough nor sufficiently detailed to be major sources for a paper. They can, however, provide an overview of a topic's essential points and alert you to areas of controversy that you’ll need to investigate in order to produce a thoughtful paper. You can consult both general and specialized encyclopedias, and other specialized publications are also available. If, for instance, you need material on a historical figure, you can check the Dictionary of American Biography for deceased American figures, the Dictionary of National Biography for deceased British figures, and the McGraw-Hill Encyclopedia of World Biography. Your librarian can suggest other useful resources. Once you've found your focus, the branching technique will allow you to expand the list of items obtained by brainstorming.

More often than not, things won't fall neatly into place as you probe for a topic and then a focus. Don't be discouraged by false starts and blind alleys. Think of yourself as an explorer who will gradually become well-versed in your chosen topic.

Figure 21.1 Clustering Diagram on Child Abuse

ASSEMBLING A WORKING BIBLIOGRAPHY

Once you have a topic, you're ready to see whether the library has the resources you'll need to complete the project. This step requires you to check additional reference tools and compile a working bibliography—a set of cards that list promising sources of information. This section discusses these reference tools and how to use them.
**Encyclopedias**

**What They Are**

Encyclopedias fall into two categories, general and specialized. General encyclopedias, the *Encyclopedia Americana* and the *Encyclopaedia Britannica*, for instance, offer articles on a wide range of subjects. Specialized encyclopedias cover one particular field, such as advertising or human behavior. Here’s a sampling of specialized encyclopedias:

- Encyclopedia of Advertising
- Encyclopedia of Education
- Encyclopedia of Environmental Science
- Encyclopedia of Human Behavior: Psychology, Psychiatry, and Mental Health
- Encyclopedia of Social Work
- Encyclopedia of World Art
- Harper's Encyclopedia of Science
- International Encyclopedia of the Social Sciences
- McGraw-Hill Encyclopedia of Science and Technology

**How to Use Them**

Encyclopedias are sometimes a convenient launching pad for your investigation because they provide an overview of the broad field your topic fits into. For a nonspecialized topic, like the impact of commercial television during the 1950s, check the articles on television in one or more general encyclopedias. For a specialized aspect of television, say the development of the picture tube, consult one or more specialized encyclopedias, such as *Harper's Encyclopedia of Science* and the *McGraw-Hill Encyclopedia of Science and Technology*, along with the general encyclopedias. During this search you'll re-encounter material you scanned while trying to focus on a topic.

Some instructors allow you to acknowledge encyclopedias as a source; others prohibit their use; and still others allow material from specialized, but not general, encyclopedias. As always, follow your instructor's wishes.

If you will be using encyclopedia sources, jot down the following information for each note you take:

- Title of article
- Author(s) of article (Not always available. Sometimes only initials at the end of an article identify an author. In that case, check the list of contributors at the front of the first volume for the full name.)
- Name of encyclopedia
- Year of publication
  - For specialized encyclopedias, also include the number of volumes in the set, the encyclopedia editor, and the place of publication.

Most important, check for bibliographies at the ends of articles and copy down any reference that looks promising.

**Computer-Based Encyclopedias**

Today, a number of encyclopedias, both general and specialized, are available on computer compact discs or over the Internet. They are easy to search and often allow you to search for a key phrase such as "Greek architecture." The results will guide you not only to articles devoted to your topic but also to others that refer to it, even it only in a paragraph. It you use an electronic encyclopedia, write down, in addition to the other source information, the publication medium, the name of the vendor (Microsoft, for example, for a Microsoft product), and the name and date of the electronic publication.

When you've finished your exploratory reading in encyclopedias, turn to the card catalog and periodical indexes—the prime sources of information for library research papers.

**Computerized Card Catalog**

**What It Is**

A computerized card catalog lists all the books in the library, usually along with other holdings like magazines, newspapers, government documents, and electronic recordings.
It may also provide additional information, such as whether a book has been checked out and, if so, the return date. Some catalogs even include the holdings of nearby libraries. Books are usually cataloged using Library of Congress call numbers, although some libraries use the Dewey decimal system.

Several catalog systems are available, all having similar terminals that consist essentially of a viewing screen and a keyboard on which to enter requests for information. Some terminals also have printers for copying material shown on the screen. To use the unit properly, read the instructions at the terminal or ask a librarian. Remember, a computer can't think. It can only match the string of letters you type to similar strings of letters in its database. If you misspell a word, you will not find any matches.

Most systems let you conduct searches by key terms (those appearing in book titles and descriptions), author, title, and subject (based on the Library of Congress's cataloging system). Most systems now let you select the kind of search by a menu or icons as in Figure 21.2. Older systems have you type in a code such as A for "author" or KT for "key term" and then, in some cases, an equal sign and your specific search request. Searching may require you to view a series of screens having increasingly specific instructions, with the final screen providing information from a single book. Figure 21.3 illustrates a keyword search. Figure 21.4 shows the list of works discovered by the search, including the publication date; Figure 21.5 one specific work, including the call number to locate the book in your library stacks, an indication of the availability of the book, a brief description of the contents, and a list of subjects that could be used in additional searches. Most libraries have handouts and training programs that explain the different symbols and options of their specific symbols.

Often, a key term search (see Figure 21.5) can be the most helpful way to approach a topic. In this type of search, the computer checks the titles and descriptions of books for the key terms you enter and lists any that it finds. Different key terms will produce varying strings of articles, so it is a good idea to try different words or phrases for the same topic. For example, if you're searching for material on "electric cars," you might also try "electronic cars," "alternative fuels," and so on. Because such searches are very rapid, you can experiment with different combinations of terms to focus your search. For instance, you're asked to write a paper on some aspect of Japanese culture, you might investigate such combinations as "Japanese business," "Japan and education," and "Japanese feminists." Because key term searches allow you to use logical terms like and, or, but, and not, they are especially useful for narrowing a broad focus.

**Obtaining the Books**

Most researchers start with a key term search. Following the instructions in the above paragraph, type in one or several terms, using the appropriate logical terms. Advanced search functions will allow you to limit the dates of your search if you are only looking for more recent texts.

Successful key term and subject searches often turn up more book titles than a single screen can accommodate. In this case, using a key designated at the bottom of the screen will let you review the rest of the list. With especially long lists, you may need to narrow your focus and start a new search.

Sometimes it is useful to conduct a subject search because such a search can produce different works and often a more focused list. If you find a book under term search, the screen will suggest related subjects, as in Figure 21.5. If you found a promising tide in an encyclopedia or another source, enter the title exactly using the "title" code. The resulting title screen will also show possible subject headings. Usually you will start a subject search based on headings suggested by a term or title search. There are also reference tools to help. If your library uses the Library of Congress system, turn to the Library of Congress Subject Headings. If it uses the Dewey decimal system, consult the Sears List of Subject Headings.

When you have found a promising tide, entering its number, or a command and the number, will call up a screen with relevant information. This is illustrated in Figure 21.5. With some
systems, this screen indicates whether the book is in the library or checked out and tells you how to proceed if you can't find it on the shelf. With other systems, you can get the information by entering a command. Some systems even allow you to reserve a book by entering the request into the computer.

If your terminal has a printer, use it to make a copy of each promising reference. Otherwise, record the following information on a 3 X 5-inch note card:

- Author (s)
- Title
- Editor (s) and translator (s) material as well as author (s) of any supplementary
- Total number of volumes (if more than one) and the number of the specific volume that you want to use
- City of publication
- Name of publisher
- Date of publication

Also, copy the book's call number in the upper left corner of the card.

Next, scan the books themselves. If your library stacks are closed, give the librarian a list of your call numbers and ask to see the books. If you can enter the stacks, locate the general areas where your books are shelved. Once you find a number range that includes one of your call numbers, follow the trail of guides on the book spines until you find your book. Spend a few extra minutes browsing in the general area of each book; you may discover useful sources that you overlooked in the card catalog.

Skim each book's table of contents and any introductory material, such as a preface or introduction, to determine its scope and approach. Also check the index and note the pages with discussions that relate to your topic. Finally, thumb through portions that look promising. If the book won't help you, throw away the note card.

If a book is missing from the shelf and the computer hasn't indicated that someone has checked it out, then it's probably on reserve. Check at the circulation desk; if the book is on reserve, go to that section and examine it there. If someone has checked the book out and the due date is some time away, perhaps a library nearby will have a copy.

**How to Use It**  
Follow the procedure given on pages 327-331 for computerized card catalogs, making any needed modifications.

**PERIODICAL AND DATABASE INDEXES**

**What They Are** Periodical indexes catalog articles in magazines and newspapers. Indexes may be in book form, on microfilm or microfiche, or computerized. Some are offered in two or more forms. Computerized indexes, called *databases*, are available to libraries through subscription. Depending upon the particular database, information may be furnished on compact discs or transmitted via wire from a mainframe computer to the library. The term *CD-ROM* (compact disc, read-only memory) designates the first type of system, and *online* designates the second type. Databases are accessed through terminals equipped with a keyboard and a viewing screen. Some have printers that can supply lists of references and even copies of articles.

In some cases, terminals are intended for student operation; others are operated by library personnel. If you use a database, you may have to pay a service fee, but it's likely to be small.

Updated frequently, sometimes every week, periodical indexes provide access to information that hasn't yet found its way into books and perhaps never will. Their listings allow you to examine new topics, follow developments in older ones, and explore your topic in greater depth than you could by using books alone. In short, indexes help you avoid doing a superficial paper.

The *Readers' Guide to Periodical Literature*, available since 1900 in printed form, is now available online and on compact discs. The *Guide* indexes the material in more than 200 widely circulated magazines—*Harper's, Newsweek, Scientific American*, and the like. Articles are
indexed by subject and author, and other categories are indexed by tide and author. The *Guide* is especially useful for finding material on historical events (say the Persian Gulf War or the Iran-Contra hearings) and on social, political, and economic developments (for instance, the assisted-suicide movement and the drive to limit the terms of political officeholders). The *Guide* also includes scientific, technical, and even literary articles intended for a general audience rather than specialists, but such articles do not include all the available research.

The first pages in the printed version of the *Guide* identify the abbreviations used for the magazines indexed. Figure 21.6 shows the arrangement of the index and the "see also" cross-references that direct you to related subject headings.

The *Magazine Index*, available on microfilm or online, indexes some four hundred popular publications by author, title, and subject. Updated monthly, it covers a five-year period and includes references to articles no more than two weeks old. The viewing machines for units using microfilm resemble small television sets and have motorized controls that allow swift movement through the filmstrip. Accompanying the viewer are coded reels of microfilm containing the indexed articles, together with a reader/printer that allows you to read articles and obtain printed copies. Your librarian will demonstrate how these machines work. The producers of the index also publish a list of recent articles on twenty to thirty current topics.

The *National Newspaper Index* covers five national newspapers: the *Christian Science Monitor*, the *Los Angeles Times*, the *New York Times*, the *Wall Street Journal*, and the *Washington Post*. It is available on microfilm, on compact discs, and online. Each monthly issue covers two-and-one-half years of references, and back issues can be obtained on microfiche cards. Microfilm units have the same kind of viewer as the microfilm version of the *Magazine Index*.

The *New York Times Index* comes in printed and online form. It indexes, by subject, all news articles, book reviews, commentaries, and features that have appeared in the paper and briefly summarizes each listing. The index entries refer to the "late city edition" of the paper, the one most libraries have on microfilm. If your library subscribes to a regional edition, an article may appear on another page or not at all.

*NewsBank* may be your best bet for a topic of regional interest. This CD-ROM database covers more than five hundred newspapers in all fifty states and Canada, indexing articles on politics, economics, business, the environment, and the entertainment world. It also offers the full text of many articles. A loose-leaf notebook version of *NewsBank*, accompanied by the articles on microfiche cards, is also available.

**DATABASE INDEXES**

Database indexes allow you to search quickly and effectively for articles in journals, magazines, and newspapers. Some databases such as *ERIC* (Educational Resources Information Center) and *Medline* (National Library of Medicine) give you access to citations of articles appearing in professional journals in a specific area. These articles, however, are usually aimed at a specialized audience and may be difficult to comprehend. Perhaps the best place to start a search is with a general periodical database such as *First Search* or *InfoTrac*. These databases provide access to listings of articles, arranged and subdivided by subject and key word, that have appeared in over a thousand magazines and newspapers, including the entries in various other indexes. Articles are sometimes accompanied by abstracts—brief summaries of the articles' main points—and in some cases the full articles are available on screen. A word of caution: Don't mistake an abstract for the full article; an abstract is a 200-300-word summary of a journal article and should not be used as a source. Always take notes on the full article. These databases are easy to operate. Your library probably has handouts that explain how to use your school's system and probably offers training sessions as well.

**Subject Search** Because many periodical indexes, like *InfoTrac*, are organized around subject headings, it's a good idea to try a variety of subject terms because each will yield different articles. If your entry matches a subject heading or you are referred to a cross-reference, the...
computer will use a series of screens to direct you to a list of articles. 

Along the way, one of the screens may list subdivisions of the request being searched, as in the following example:

**Acquaintance Rape, subdivisions of**

—analysis  
—cases  
—investigation  
—laws, regulations, etc.  
—media coverage  
—moral and ethical aspects  
—personal narratives  
—prevention  
—psychological aspects  
—research  
—social aspects  
—statistics  
—studying and teaching  
—usage

Such a list can uncover facets of your topic that you hadn't considered and that might enrich your final paper. For example, the subdivision "personal narratives" might contain an experience that would provide a powerful opening for the paper. Similarly, articles cataloged under "statistics" could provide information on the scope of the acquaintance rape problem.

**Key Word Search** If your entries don't match a subject heading, the computer may automatically switch to a key term search (see page 330) and display a list of articles. If your subject yields only a few articles, you can initiate a key term search that may uncover more. Just follow the instructions for beginning the search and then enter your key term. If, for example, your topic is "teenage suicide," type "teenagers and suicide" onto the screen that's already showing and press the search or enter key. The computer will check titles and abstracts for the key terms and provide a list of the corresponding articles. Allow ample time to explore a number of possibilities. If you try several terms related to your topic, you will find a wider variety of articles that serve your purpose.

**Advanced Search** The final result of any search is a list of articles like the following one, obtained through General Reference Center Gold, for the search term "acquaintance rape":

Sometimes the result of a search may be formatted like the following list of magazine articles from an older version of Infotrac:

—Abstract Available—  
Holdings: AS Magazine Collection  
Abstract Available  
Holdings: AS Magazine Collection  
Holdings: AS Magazine Collection

This list shows that all three magazines are available in the library and that two articles are abstracted in the computer. (If the database provides the full text of an article, the notation "full
text available” will appear after the citation.) The coded notation "Mag. Coll." indicates that the magazine is available on microfilm. The first two numbers and the letter in the code identify the number of the microfilm cassette. The remaining numbers indicate the microfilm page on which the article starts. The exact listings of your system may be somewhat different from what's shown here; the same kind of information, however, should be available.

Besides the previously mentioned specialized indexes, many others are available that you could use to supplement your search of general indexes. Here is a brief sampling of them:

- **Applied Science and Technology Index**, 1958-date (indexed by subject)
- **Education Index**, 1929-date (indexed by subject and author)
- **Humanities Index**, 1974-date (indexed by subject and author)
- **International Index to Periodicals**, 1907-1964 (indexed by subject and author; titled *Social Sciences and Humanities Index*, 1965-1974, and then separated into the **Humanities Index** and the **Social Sciences Index**)
- **Social Sciences and Humanities Index**, 1965-1974 (indexed by subject and author)
- **Social Sciences Index**, 1975-date (indexed by subject and author)

All come in printed form, and most are also available on compact discs and online.

With periodical indexes, as with the card catalog, don't give up if a subject heading you're exploring yields few or no entries. Instead, explore related headings. For example, if your topic is teenage marriages, look also under "adolescence," "divorce," "teen pregnancies," and the like. Browse through the system and try a variety of options. Use this as an opportunity to gain different perspectives on your research project.

**Obtaining the Articles** If the index is computerized and provides printouts, print a copy of each promising reference you find. Otherwise, copy the following information on a 3 X 5-inch note card.

- **Author(s)**, if identified
- **Title of article**
- **Name of periodical**
- **Volume or issue number** (for professional and scholarly journals only)
- **Date of periodical**
- **For newspapers**, the edition name (city, metro) if more than one published, and section letter
- **The page range of the entire article**

Obtain printouts of whatever articles you can and check the topic sentences of paragraphs for essential points. Also, scan any accompanying abstracts or summaries. If an article appears useful, check to see whether it has a bibliography, which might include additional useful sources. Keep the note cards for articles that seem promising—and any useful articles—and throw away the others.

Check the remaining references, including the ones from encyclopedia bibliographies, against the library's periodical catalog to see which periodicals are available and where they are located. Libraries frequently keep current issues in a periodical room or some other special section. Back issues of magazines are often kept on microfilm or bound into hardcover volumes and shelved. Most newspapers are on microfilm. Check the articles for which you don't have printouts in the same manner that you checked the others.

**The Internet**

**What It Is** The Internet is a worldwide network that links the computer systems of educational institutions, government agencies, businesses, professional organizations, and individuals. The Internet offers a number of services, including the World Wide Web, electronic mail (e-mail), newsgroups, and listservs. It allows you to check the holdings of college libraries; obtain information from online books, magazines, and newspapers; access
research and government documents; gather viewpoints and information from numerous organizations and individuals; and communicate with people around the world or at the next computer station. This abundance of information and perspectives, sometimes not more than a day old, can greatly enhance your research. But remember that you'll still need to consult traditional sources in addition to using the Internet.

You can easily learn how to access the Internet and World Wide Web if you don't already know how. Your school may offer training sessions that you can attend. In addition, a number of excellent, easy-to-follow books are available. Whether enrolled in a training session or learning on your own, you'll need to obtain a log-on name, your own password, and an e-mail address if you plan to use your school's computers. If you encounter problems, personnel in the computer labs can probably answer many of your questions.

**World Wide Web**  During the 1990s the World Wide Web exploded into national prominence. The Web gained quick popularity because it is easy to use and offers visuals, including many sites dedicated to art, and hypertext, that is, text with color-coded words that can link you to other related sites. Web pages can include text, graphics, sound, video clips, entire computer programs, files that can be downloaded, and even animated images.

To use the World Wide Web, you need access to a computer with a Web browser such as *Netscape Navigator* or *Microsoft Internet Explorer*, and an Internet service provider such as *America Online*, *CompuServe*, or another provider to connect you to the Web. The format of these services is user-friendly and, in addition, most colleges have training programs. The top of the screen on any browser features a tool bar that you can click on to save locations for future reference, stop the transfer of data, or initiate a search.

Each Web page has an address called a URL (uniform resource locator), which allows the browser to locate that page. Here is a sample address:

**How to use it** The Internet includes millions of computers and offers a stupendous amount of information. As a result, finding just the material you want can be quite difficult. To solve this problem, several indexes, or *search engines*, have been developed that can connect any search term or terms with potentially millions of sites that include the key words. The easiest way to connect with these search engines is to simply select the search command or its nearest equivalent on your browser or Internet service. This will connect you with a specific search engine but also give you a choice of several others. You can also enter the direct address (URL) in the address window. Figure 21.11 provides the addresses of several popular search engines. Because the various search engines often select differently and produce different results, it's a good idea to use several engines while conducting your search.

<table>
<thead>
<tr>
<th>Search Engine</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td><a href="http://www.google.com">http://www.google.com</a></td>
</tr>
<tr>
<td>Yahoo</td>
<td><a href="http://www.yahoo.com">http://www.yahoo.com</a></td>
</tr>
<tr>
<td>WebCrawler</td>
<td><a href="http://webcrawler.com">http://webcrawler.com</a></td>
</tr>
<tr>
<td>Alta Vista</td>
<td><a href="http://www.altavista.com">http://www.altavista.com</a></td>
</tr>
<tr>
<td>Excite</td>
<td><a href="http://www.excite.com">http://www.excite.com</a></td>
</tr>
</tbody>
</table>

**Figure 21.11** Popular Search Engines

While each search engine works in a slightly different manner, they all provide similar sorts of information. When prompted by the key words you enter, the engine searches and returns lists of links to information containing these words. Such engines simplify the job of finding what you want on the Internet. Still, expect the job to require patience since search engines often provide information that isn't useful. For that reason, you'll often want to narrow your search when you begin. Single terms such as "health," "cancer," or "crime" could give you a million possible sites; instead, you may want to search for "ovarian cancer" or even "ovarian cancer cures." Most search engines also let you add key words that will further narrow what has already been found. Different words or phrases can produce different results, so try a variety of words for the same topic.
You can scroll through the list of sites the engine has found. The sites are usually accompanied by a short description that may help you decide whether they are useful. If you select any highlighted words, the search engine will transfer the data from that site and will connect you to the selected Web page.

Figures 21.12, 21.13, and 21.14 show the results of searching the subject "robotic advances." Figure 21.12 shows a search engine screen with the search subject entered, Figure 21.13 shows some of the Web sites found during the search, and Figure 21.14 shows a Web page with potentially useful information.

When viewing a Web page, you may notice menus, highlighted words, or specially marked graphics. These features, called hyperlinks, will usually take you to a different location: another section within the original page, a different page within the same domain, or even a new page on a computer in a different country. Following these hyperlinks allows you to explore related information from a variety of sources. As you move from Web page to Web page, browsers provide an easy way to navigate. Netscape, for example, has "back" and "forward" buttons that allow you to move to other sites. If you move back far enough, you will eventually get back to your main search site or even your home page. When you find an interesting site, you can print it out, or you can "bookmark" the site, allowing you easy future reference to the page. You'll need to keep track of site addresses that you use so you can include them in your bibliography.

**Evaluating Internet Material**

Because anyone can post virtually anything on the Internet, it is crucial that you check the accuracy and validity of information you obtain from it. A source that sounds like a research center, for example, the Institute for Social Justice, could be a political or even a cult organization giving out one-sided or false information for its own purposes. While articles for professional journals are reviewed by experts to ensure that the information is reliable, no such safeguard exists on the Internet. Carelessly researched or ethically questionable material can and does appear. Here are some guidelines for checking the validity of an Internet source:

1. Is the source identified as a reputable professional organization, such as the American Cancer Society, a university like MIT, or a government agency like the Department of Justice? Keep in mind that anyone can use a professional-sounding name, so be alert.
2. Is there an identified author whose credentials you can check and who speaks with some authority? If there is no e-mail contact listed or you can't find another way to verify the contents of the Web site, don't use it.
3. Is the tone of the site professional? Does it maintain an objective stance and support its position with credible evidence?
4. Is the information consistent with the other material you have found? If the site disagrees with the standard information, does it offer adequate support for its claims?
5. Does the site explain how the data were obtained?
6. Does the site appear to misuse any data? For instance, is the sample too small? Are the claims pushed too far? Are the statistics biased?

Look at the selected Web page. The address of this Web site in Figure 21.14 is normally at the bottom of the Web page (not shown here). This article has an author, which increases the credibility of the report. However, research shows that the author is founder and vice-president of a robotics technology company, which though it demonstrates a clear expertise suggests a bias in favor of such technologies. A check of the home page shows that Appliance Manufacturer is an established organization promoting applied technologies. This group would have the professional expertise to make certain the article is credible. However, they might also have a slight bias to stress the effectiveness of such technologies rather than dwell on the negatives.

Sometimes, of course, you may want to check out pages that present the views of individuals or organizations with strong but slanted positions to gain a better understanding of their thinking, but don't consider such pages to be reliable sources. When using the Internet,
"Reader beware" is a prudent attitude.

E-Mail You probably have your own e-mail address. You may also have an address provided to you by your University. In some cases, your professor may be using a Web based instructional program that includes e-mail specific to your class. It is a good idea to jot down the e-mail addresses of other students in your class, making certain it is the one they actually are using, so that you can exchange ideas. Your professor, however, may prefer that you use the class or university e-mail.

You can also use e-mail to ask knowledgeable people about your research topic and get swift answers to your questions. Use this approach, however, as a last resort since busy people have limited time. If you must contact experts, don't bother them with questions that you could easily answer by reading background material. Reserve e-mail for specific queries that defy answer after extensive research. Most search engines have clearly identified directories that allow you to look up an e-mail address if you know a person's name. Sometimes you can find the name of an expert through the Web pages of major universities. If you do get a response to your query, evaluate it carefully; an overburdened expert may dash off a quick response while doing something else.

Newsgroups A newsgroup is a group of people who discuss a common interest by posting their responses to a common address for everyone to read. These discussions can be informal and often are not monitored; as a result, they leave something to be desired as a source for research. Still, your university system will likely give you access to newsgroups, so ask your computer center for an instruction sheet. A word of caution: Many newsgroups are intolerant of uninformed people intruding upon their conversation. Common netiquette (the etiquette of the Internet) calls for you to read what has already been written and to think before you write.

Listservs A listserv consists of numerous e-mail addresses that make up a mailing list of people interested in a particular topic. Once you sign up, everything posted to that listserv will be sent to your e-mail address. People who subscribe to three or tour listservs may receive thirty or forty e-mail messages every day. If you post a question on a listserv, you may get dozens of responses from professionals interested in the topic, and sorting out the validity of the different responses can be difficult. As with newsgroups, netiquette calls for you to acquire an understanding of your subject and follow the discussions on the listserv for some time before you post a question or a response. Your university computer professionals can probably supply you with instructions on how to find and sign up for a listserv. You can access a subject index of listservs at http://www.liszt.com.

FAQs Whenever you find a promising Web site, newsgroup, or listserv, you will often see a line for FAQs (frequently asked questions). It's a good idea to read the FAQs first since they may well answer your questions.

PRIMARY RESEARCH FINDINGS

Besides relying on library materials, you may wish to use information obtained by conducting primary research. Chapter 23 provides detailed instructions for interviewing specialists, sending out questionnaires, and making direct observations. Before doing any type of primary research, always get your instructor's permission.

ADJUSTING YOUR TOPIC

After finishing your search for sources, you may need to adjust the scope and emphasis of your topic. If you start with "America's First Nuclear-Powered Submarine" but fail to turn up enough sources, you might expand your emphasis to "America's First Nuclear-Powered Warships." On the other hand, if you're working with "America's First Nuclear-Powered Warships" and find yourself floundering in an ocean of sources, you might zero in on one type of vessel. Gathering evidence helps to develop your judgment about how many sources you need to do the job.
**CASE HISTORY**

Once Keith Jacque had selected a focus for his paper on electronic monitoring, he began compiling his working bibliography. First he turned to the computerized card catalog and began his search for books and government documents by typing in the subject entry "house arrest," but he found nothing. Next he tried "electronic monitoring of prisoners." This entry yielded a cross-reference directing him to the entries "punishment—United States" and "criminal statistics—analysis." These two entries yielded a list of seven books and eleven government documents. Further examination revealed that three of the books and four of the documents appeared promising.

Keith's search for periodical articles took him to the college's *InfoTrac* database. Using this system, he found three useful subject headings: "home detention," "electronic monitoring of prisoners," and "criminal statistics—analysis." A search of these subjects turned up twenty-four journal articles, all of which were available in the library. Eight looked as if they would be useful. Three newspaper articles seemed suitable, and a search of *NewsBank* revealed another promising newspaper article.

Since his library offered access to the Internet, Keith also searched the World Wide Web. He used the Lycos and Yahoo search engines and entered complete phrases such as "electronic incarceration," "home detention," "electronic monitoring," and "incarceration, electronic." Many of the Web sites he found were not relevant to his topic, but he persisted and finally found two that seemed promising. One, from an organization concerned with public policy, discussed the indirect costs of incarceration. The other, from the Probation Division of Georgia's Department of Corrections, discussed alternatives to jail sentences.

After completing his search for library and Internet sources, Keith sought and obtained his instructor's permission to conduct primary research on his topic. Unsure of how to proceed, he talked to his advisor in the criminal justice department. She suggested that he ask the director of Michigan's electronic surveillance program for a personal interview. (See pages 410-412). He was able to obtain the interview, which provided information on the scope, operation, and success rate of the program as well as the savings it has achieved.

Satisfied that ample information was available, Keith carefully evaluated the content of the articles and of pertinent sections of the books and government documents he had located. His instructor had suggested that one good way to approach a topic is to pose a question about it and then draft a *tentative* answer, if possible. Here's how Keith proceeded:

**Q.** What benefits does electronic monitoring offer jurisdictions that adopt it?

**A.** Electronic monitoring is less expensive than incarceration, presents no serious problems, and offers a choice among several systems.

This answer provided a *tentative thesis*, an informed opinion that guided Keith's later note taking, giving him a sense of direction and indicating what information would probably prove useful and what was likely to be useless. Tentative theses can be altered slightly or changed completely if necessary. If later reading indicated that electronic monitoring can sometimes be more expensive than incarceration, Keith could alter his thesis accordingly.

**TAKING NOTES**

To take notes, read your references carefully and record significant information. You might review or even expand your original research questions (page 325) so that you can read with a better sense of purpose. Notes are the raw materials for your finished product, so develop them accurately.

**Evaluating Your Sources**

Evaluate your sources by considering these factors.

**The Expertise of the Author** Judge an author's expertise by examining his or her
professional status. Say you're searching for information on some new cancer-treating drug. An article by the director of a national cancer research center would be a better bet than one by a staff writer for a magazine. Similarly, a historian's account of a national figure will probably have more balance and depth than a novelist's popularized account of that person's life. Gauging a writer's credentials is not difficult. Articles in periodicals often note authors' job titles along with their names. Some even supply thumbnail biographies. For a book, check its title page, preface, or introduction, and—if it's been left on—the dust jacket. Finally, notice whether the writer has other publications on this general subject. If your sources include two or more items by one person or if that person's name keeps cropping up as you take notes, you're probably dealing with an expert.

The Credibility of the Publication A book's credibility hinges on its approach and its reception by reviewers. Cast a cautious eye on books that take a popular rather than a scholarly approach. For research papers, scholarly treatments provide more solid fare. Weigh what reviewers said when a book first appeared. Two publications excerpt selected reviews and provide references to others. The Book Review Digest (1905-date) deals mainly with nontechnical works, while the Technical Book Review Index (1935-date) covers technical and scientific books. Turn first to the volume for the year the book came out. If you don't find any reviews, scan the next year's index. Often books published in the fall are not reviewed until the following year.

Periodical articles can also take a scholarly or popular tack. Editors of specialized journals and of some wide-circulation magazines—for example, Scientific American and The Atlantic Monthly—publish only in-depth, accurate articles. Most newsstand publications, however, popularize to some extent, and some deliberately strive for sensationalism. Popularizing may result in broad, general statements, skimpy details, and a sensational tone. Don't automatically reject a source because the writer lacks expertise or offers a popularized treatment. Often, especially when writing about a current topic, you'll need to use material that falls short in some way. Remember, though, that you undertake research to become more knowledgeable than general readers are about a topic. When information in popular periodicals provides less than adequate coverage, candidly acknowledge the shortcomings.

Mechanics of Note Taking

Generally your most effective approach to note taking is to use note cards. Copy each note on a 4 X 6-inch card to avoid confusion with the smaller bibliography cards. Record only one note per card, even when you take several notes from a single page; you may use the notes at different points. If you can't fit a note on a single card, continue the note on a second card and paper-clip or staple the two together. Cards allow you to test different arrangements of notes and use the best one to write the paper.

Before you take a note, indicate its source at the bottom of the card. You will then have all the details necessary for documenting the information if you use it in your paper. Usually, the author's last name and the page number suffice, since your bibliography card contains all other details. To distinguish between two authors with the same last name or between two works by the same author, add initials or partial titles. Don't forget to include the page number or numbers for each note. Otherwise, you'll have to waste time looking them up when you cite your sources in the paper.

Summarize briefly the contents of the note at the top of the card. Later, when you construct an outline, these notations will help you sort your cards into categories and subcategories.

Responding to Notes

As you take notes, reflect on your topic and try to come up with new ideas, see connections to other notes, and anticipate future research. Think of yourself as having a conversation with your sources, and jot down your responses on the backs of your note cards. Ask yourself these
questions: Does this information agree with what I have learned so far? Does it suggest any new avenues to explore? Does it leave me with questions about what's been said? Although it may take a few minutes to record your responses to a note, this type of analysis will help you write a paper that reflects your opinions, decisions, and evaluations, not one that smacks of notes merely patched together from different sources.

**TYPES OF NOTES**

A note can be a summary, paraphrase, or quotation. Whenever you use any kind of note in your paper, give proper credit to your source. Failure to do so results in plagiarism— that is, literary theft—a serious offense even when committed unintentionally. Pages 404-406 discuss plagiarism, and pages 381-402 explain proper documentation of sources.

**Summary**

A summary condenses original material, presenting its core ideas in your own words. In order to write an effective summary, you must have a good grasp of the information, and this comprehension ensures that you are ready to use the material in your paper. You may include brief quotations if you enclose them in quotation marks. A properly written summary presents the main points in their original order without distorting their emphasis or meaning, and it omits supporting details and repetition. Summaries, then, serve up the heart of the matter.

Begin the summarizing process by asking yourself, "What points does the author make that have an important bearing on my topic and purpose?" To answer, note especially the topic sentences in the original, which often provide essential information. Copy the points in order; then condense and rewrite them in your own words. Figure 21.15 summarizes the Bertrand Russell passage that follows. We have underscored key points in the original.

*Necessity for law*

About a century and a half ago, there began a still-existing preference for impulsive actions over deliberate ones. Those responsible for this development believed that people are naturally good but institutions have perverted them. Actually, unfettered human nature—breeds violence and brutality, and law is our only protection against anarchy. The law assumes the responsibility for revenge and settles disputes equitably. It frees people from the fear of being victimised by criminals and provides a means of catching them. Without it, civilization could not endure.

*Russell, pp. 63-65*

Under the influence of the romantic movement, a process began about a hundred and fifty years ago, which has continued ever since—a process of revaluing the traditional virtues, placing some higher on the scale than before, and others lower. The tendency has been to exalt, impulse at the expense of deliberation. The virtues that spring from the heart have come to be thought superior to those that are based upon reflection: a generous man is preferred to a man who is punctual in paying his debts. Per contra, deliberate sins are thought worse than impulsive sins: a hypocrite is more harshly condemned than a murderer. The upshot is that we tend to estimate virtues, not by their capacity for providing human happiness, but by their power of inspiring a personal liking for the possessors, and we are not apt to include among the qualities for which we like people, a habit of reflecting before making an important decision.

The men who started this movement were, in the main, gentle sentimentalists who imagined that, when the fetters of custom and law were removed, the heart would be free to display its natural goodness. Human nature, they thought, is good, but institutions have corrupted it; remove the institutions and we shall all become angels. Unfortunately, the matter is not so simple as they thought. Men who follow their impulses establish governments based on pogroms, clamour for war with foreign countries, and murder pacifists and Negroes. Human nature unrestrained by law is violent and cruel. In the London Zoo, the male baboons fought over the females until all the females were torn to pieces; human beings, left to the ungoverned impulse, would be no better. In ages that have had recent experience of anarchy, this has been
obvious. All the great writers of the middle ages were passionate in their admiration of the law; it was the Thirty Years' War that led Grotius to become the first advocate of international law. Law, respected and enforced, is in the long run the only alternative to violent and predatory anarchy: and it is just as necessary to realize this now as it was in the time of Dante and Grotius.

What is the essence of law? On the one hand, it takes away from private citizens the right of revenge, which it confers upon the government. If a man steals your money, you must not steal it back, or thrash him, or shoot him; you must establish the facts before a neutral tribunal, which inflicts upon him such punishment as has seemed just to the disinterested legislators. On the other hand, when two men have a dispute, the law provides a machinery for settling it, again on principles laid down in advance by neutrals. The advantages of law are many. It diminishes the amount of private violence, and sets disputes in a manner more nearly just than that which would result if the disputants fought it out by private war. It makes it possible for men to work without being perpetually on the watch against bandits. When a crime has been committed it provides a skilled machine for discovering the criminal.

Without law, the existence of civilized communities is impossible. In international law, there is as yet no effective law, for lack of an international police force capable of overpowering national armies, and it is daily becoming more evident that this defect must be remedied if civilization is to survive. Within single nations there is a dangerous tendency to think that moral indignation excuses the extralegal punishment of criminals. In Germany an era of private murder (on the loftiest grounds) preceded and followed the victory of the Nazis. In fact, nine-tenths of what appeared as just indignation was sheer lust for cruelty; and this is equally true in other countries where mobs rob the law of its functions. In any civilized community, toleration of mob rule is the first step towards barbarism.


Paraphrase To paraphrase is to restate material in your own words without attempting to condense it. Unlike a summary, a paraphrase allows you to present an essentially complete version of the original material. A note of caution, however: Don't copy the original source nearly verbatim, changing only a word here and there. To do so is to plagiarize. To avoid this offense, follow a read, think, and write-without-looking-at-the-original strategy when you take notes so that you concentrate on recording the information in your own words. Then verify the accuracy of your notes by checking them against the original source. Here is a sample passage; Figure 21.16 is its paraphrase.

Over time, more and more of life has become subject to the controls of knowledge. However, this is never a one-way process. Scientific investigation is continually increasing our knowledge. But if we are to make good use of this knowledge, we must not only rid our minds of old, superseded beliefs and fragments of magic, but also recognize new superstitions for what they are. Both are generated by our wishes, our fears, and our feelings of helplessness in difficult situations.


Combatting superstitions

As time, has passed, knowledge has asserted its sway over larger and larger segments of human life. But the process cuts two ways. Science is forever adding to the storehouse of human knowledge. Before we can take proper advantage or its gifts, however, we must purge our minds of old and outmoded convictions, while recognizing the true nature of modern superstitions. Both stem from our desires, our apprehensions and our sense of impotence under difficult circumstances.

Mead, p. 266
that you've mastered your sources, don't rely extensively on quotations. You need practice in expressing yourself. As a general rule, avoid quotations except when

- the original displays special elegance or force
- you really need support from an authority
- you need to back up your interpretation of a passage from a literary work.

Paraphrasing a passage as well-written as the one below would rob it of much of its force.

Man is himself, like the universe he inhabits, like the demoniacal stirring of the ooze from which he sprang, a tale of desolation. He walks in his mind from birth to death the long resounding shores of endless disillusionment. Finally, the commitment to life departs or turns to bitterness. But out of such desolation emerges the awful freedom to choose beyond the narrowly circumscribed circle that delimits the rational being.

Loren Eiseley, *The Unexpected Universe*

Special rules govern the use of quotations. If, for clarity, you need to add an explanation or substitute a proper name for a personal pronoun, enclose the addition in *brackets*.

The Declaration of Independence asserts that "the history of the present King of Great Britain [George III] is a history of repeated injuries and usurpations. . . ."

If your keyboard doesn't have brackets, insert them neatly with a dark pen.

Reproduce any grammatical or spelling errors in a source exactly as they appear in the original. To let your reader know that the original author, not you, made the mistake, insert the Latin word *sic* (meaning "thus") within brackets immediately after the error.

As Wabash notes, "The threat to our environment [sic] comes from many directions."

If you're using the MLA documentation system and exclude an unneeded part of a quotation, show the omission with three spaced periods. Indicate omissions *within sentences* as follows:

Writing in *The Age of Extremes*, Eric Hobsbawm observed, "What struck both the opponents of revolution and the revolutionists was that, after 1945, the primary form of revolutionary struggle . . . seemed to be guerilla warfare."

When an omission comes *at the end of a sentence* and what is actually quoted can also stand as a complete sentence, use an unspaced period followed by an ellipsis.

In his second inaugural address, Lincoln voiced his hopes for the nation: "With malice toward none, with charity for all, with firmness in the right as God gives us to see the right, let us strive on to finish the work we are in. . . ."

Do the same when you drop a *whole sentence* within a quoted passage.

According to newspaper columnist Grace Dunn, "Williamson's campaign will undoubtedly focus primarily on the legalized gambling issue because he hopes to capitalize on the strong opposition to it in his district. . . . Nonetheless, commentators all agree he faces an uphill fight in his attempt to unseat the incumbent."

Don't change or distort when you delete. Tampering like the following violates ethical standards:

*Original passage:* This film is poorly directed, and the acting uninspired; only the cameo appearance by Laurence Olivier makes it truly worth seeing.

*Distorted version:* This film is . . . truly worth seeing.

If the original passage you are quoting already includes ellipsis, place your own ellipsis in brackets [. . .] to distinguish your ellipsis from the one in the original. Some instructors may require you to enclose all ellipses in brackets. Follow your instructor's directions.
If you're using the APA documentation system, never enclose ellipsis within brackets.

You can summarize or paraphrase original material but retain a few words or phrases to add vividness or keep a precise shade of meaning. Simply use quotation marks but no ellipsis.

Presidential spokesperson Paula Plimption notes that because of the "passionate advocacy" of its supporters, the push to roll back properly taxes has been gaining momentum across the country.

When you copy a quotation onto a note card, put quotation marks at the beginning and the end so you won't mistake it for a paraphrase or a summary when you write the paper. If the quoted material starts on one page and ends on the next, use a slash mark (/) to show exactly where the shift comes. Then if you use only part of the quotation in your paper, you'll know whether to use one page number or two.

Don't expect to find a bonanza on every page you read. Sometimes one page will yield several notes, another page nothing. If you can't immediately gauge the value of some material, take it down. Useless information can be discarded later. Place a rubber band around your growing stack of note cards. Store them in a large envelope closed with a snap or string and labeled with your name and address. Submit them with your completed paper if your instructor requests.

ORGANIZING AND OUTLINING

Next comes your formal outlining, the blueprint that shows the divisions and subdivisions of your paper, the order of your ideas, and the relationships between ideas and supporting details. An outline is a tool that benefits both writer and reader.

A formal outline follows the pattern shown below:

I.
   A.
   B.
      1.
      2.
         a.
         b.
   II.

You can see the significance of an item by its numeral, letter, or number designation and by its distance from the left margin; the farther it's indented, the less important it is. All items with the same designation have roughly the same importance.

DEVELOPING YOUR OUTLINE

Developing an outline is no easy job. It involves arranging material from various sources in an appropriate manner. Sorting and re-sorting your note cards is a good way to proceed. First, determine the main divisions of your paper by checking the summarized notations at the tops of your cards, and then make one stack of cards for each division. Next, review each stack carefully to determine further subdivisions and sort it into smaller stacks. Finally, use the stacks to prepare your outline.

There are two types of formal outline: topic and sentence. A topic outline presents all entries as words, short phrases, or short clauses. A sentence outline presents them as complete sentences. To emphasize the relationships among elements, items of equal importance have parallel phrasing. Although neither is the preferred form, a sentence outline includes more details and also your attitude toward each idea. Many students first develop a topic outline, do additional research, and then polish and expand this version into a sentence outline. While it's easy to be sloppy in a topic outline, forming a sentence outline requires you to reach the kinds of conclusions that will be the backbone of your paper. The following segments of a topic and a
sentence outline for a paper on tranquilizer dependence illustrate the difference between the two:

**Topic Outline**

II. The tranquilizer abuse problem  
A. Reasons for the problem  
   1. Overpromotion  
   2. Overprescription  
   3. Patient's misuse  
      a. Dosage  
      b. Length of usage  
B. Growth of the problem

**Sentence Outline**

II. Tranquilizers are widely abused.  
A. Several factors account for the abuse of tranquilizers.  
   1. Drug companies overpromote their product.  
   2. Doctors often unnecessarily prescribe tranquilizers.  
   3. Patients often do not follow their doctors' instructions.  
      a. Some patients take more than prescribed doses.  
      b. Some continue to use tranquilizers beyond the prescribed time.  
B. The problem of tranquilizer abuse appears to be growing.

Note that the items in the sentence outline are followed by periods, but those in the topic outline are not.

**KEYING YOUR NOTE CARDS TO YOUR OUTLINE**

When your outline is finished, key your note cards to it by writing at the top of each card the letters and numbers—such as IIA or IIIB2—for the appropriate outline category. Now arrange the cards into one stack, following the order shown in the outline. Finally, start with the top card in the stack and number all of them consecutively. If they later fall off the table or slide out of place, you can easily put them in order again. You might have a few stragglers left over when you complete this keying. Some of these may be worked into your paper as you write or revise it.

**ETHICAL ISSUES**

When you present the information you've gathered from a variety of sources, you'll want to proceed in an ethically responsible way. Asking and answering the following questions will help you do just that.

- Have I carefully researched my topic so that my conclusions are well-founded? Imagine the consequences if slipshod testing by an auto company led to the erroneous conclusion that the steering mechanism on one of its models met current safety standards.
- Have I adequately acknowledged any evidence that runs counter to the conclusions I draw? A paper that stresses the advantages of charter schools but deliberately avoids mentioning their disadvantages could be a form of deception.
- Have I properly documented my sources? Using someone else's words or ideas without giving proper credit is a form of academic dishonesty (see pages 404-406).
- Have I honestly represented the authority of my sources? If you read an article touting almond extract as a cure for cancer that was written by a practicing foot doctor, it would be dishonest to suggest that the article was written by a "prominent research scientist." Refer to someone as an "expert" only when that person's credentials warrant
the label.

- Could my information have an undesirable effect on readers? If so, how can I address their concerns? A report describing a new antibiotic-resistant strain of tuberculosis might alarm some readers, and therefore the writer could provide appropriate reassurances of the limited risk to most people.

**WRITING YOUR RESEARCH PAPER**

Some students think of a library research paper as a series of quotations, paraphrases, and summaries, one following the other throughout the paper. Not so. Without question, you use the material of others, but you select and organize it. Initial outline won't work, according to your purpose. You develop insights, and you draw conclusions about what you've read. You can best express your conclusions by setting your notes aside, stepping back to gain some perspective, and then expressing your sense of what you've learned. Many students find it helpful to write two or three pages on which they summarize what they want to say as well as whom they want to reach with their message and why. Like all forms of writing, research papers are written for some purpose and aimed at some audience.

**WRITING THE FIRST DRAFT**

Your final research results will be expressed in a thesis. You've already drafted a tentative thesis (see page 347), and now you'll probably refine or revise it to accommodate any changes in your perspective on the topic. Position the thesis in the introductory part of your paper unless you're analyzing a problem or recommending a solution; then you might hold back the thesis until later in the essay. If you do hold it back, state the problem clearly at the outset. Because of the paper's length, it's a good idea to reveal your organizational plan in your introductory section.

Write the paper section by section, following the divisions of your outline. But keep in mind that you're not locked into its pattern. If you see an opportunity to develop an important idea that you omitted from your outline, try it. If you discover that it might be better to introduce an item earlier than you intended, go ahead. Just be sure to check your organization later. As you write, think of yourself as supporting the conclusions you have reached with the appropriate material on your note cards, not just as stringing these cards together. You will then incorporate the material on your note cards with your own assessments and with transitional elements that clarify your information and orient the reader. As you proceed, here again you'll use the writing strategies presented earlier in the book.

Because of this paper's length, you will probably need to connect its major sections with transitional paragraphs that pull together the material already covered and prepare the reader for what follows. Don't fret if the style bumps along or connections aren't always clear. These problems can be smoothed out when you revise. You will, of course, need to know how to document your sources properly, handle quotations, and avoid plagiarism. Chapter 22 presents guidelines on these important subjects.

On occasion you may want to include supplementary information that would interrupt the flow of thought if you placed it in the paper. When this happens, use an explanatory note. A typical explanatory note might clarify or elaborate on a point, discuss some side issue, or define a term used in a specialized way.

When you finish writing, let this version sit for a day or two. Then revise it, just as you would with a shorter essay. Keep track of all sources so that preparing the bibliography will go smoothly.

**PREPARING YOUR FINISHED COPY**

---

2 This is an explanatory note. Position it at the bottom of the page, spaced four lines away from the main text. If more than one note occurs on a page, double-space between them. If the note carries over to the next page, separate it from your text with a solid, full-length line. Put two spaces above the line and two spaces below it.
Follow the revision guidelines in Chapter 4. In addition, verify that you have

- included all key information
- clearly organized your material
- not overloaded your paper with quotations
- worked in your own observations
- put in-text documentation and source information in proper form.

Prepare your final draft with a word processing program. Be sure you have access to a laser or inkjet printer that produces dark, readable copy. Double-space throughout, including indented block quotations and the list of works you used to prepare the paper.

Two systems for formatting and documenting library research papers are in common use: the Modern Language Association (MLA) system, favored by many English and humanities instructors, and the American Psychological Association (APA) system, used by many social science and psychology instructors.

**MLA System for Preparing Papers**

- Number each page in the upper right corner, one-half inch from the top. Precede each page number with your last name.
- Starting one inch from the top of the first page, type your full name, the instructor's name, the course designation, and the date, all flush with the left margin.
- Double-space below the date, and center the title; then double-space before starting the first paragraph.
- Leave one-inch margins on all four sides except at the top of the first page. Indent the first line of each paragraph five spaces or one-half inch.
- The MLA system does not require a title page. If your instructor wants one, however, center (1) the title of the paper about two inches below the top of the sheet, (2) your name in the middle of the sheet, and (3) the instructor's name, course designation, and date about two inches from the bottom. Use capital and lowercase letters for everything. Repeat the title, again in capital and lowercase letters, on the first text page, centered about two inches from the top.
- Begin the bibliography on a new page that follows the text of the paper, and give it the heading "Works Cited," without quotation marks. Center the heading on the page.
- List each bibliographic entry alphabetically according to the author's last name or, if no author is given, by the first significant word in the title. For a work with more than one author, alphabetize by the name that comes first. If there's more than one entry for an author, substitute three unspaced hyphens, followed by a period and a double space, for the author's name in the second and subsequent entries.
- Begin the first line of each entry at the left margin and indent subsequent lines five spaces.

**APA System for Preparing Papers**

- The APA system requires a title page. Center (1) the title of the paper about four inches from the top and (2) your name, two spaces below the title. About three-fourths of the way from the top, provide the course designation, the name of your instructor, and the date, typed double-spaced and flush with the right margin. Two inches from the top of the page, type the words "Running Head," without quotation marks, flush with the left margin; then type a colon and a word or phrase that identifies the paper's topic. Type the running head in capital letters; type everything else in capital and lowercase letters.
- Repeat the title of the paper on the first text page, centered about one-and-a-half inches from the top and typed in capital and lowercase letters.
- Number every page of the text in the upper right corner, starting with the title page. Position the first two or three words of the title five spaces to the left of the page number.
- Leave one-inch margins at the bottom and at both sides of each page. Indent the first line of each paragraph five spaces.
- Begin the bibliography on a new page that follows the text of the paper, and give it the heading "References," without quotation marks. Center this heading on the page. Follow the alphabetizing and positioning guidelines for the MLA system except that if the listing includes more than one entry for an author, repeat the author's name.
- Indent the first line of each entry five spaces and begin subsequent lines at the left margin.

**USING A COMPUTER**

Word-processor software programs can help you with the various stages of library research. Several guidelines will enhance your efficiency as you proceed.

**TAKING NOTES**

Students with laptop computers or notebooks sometimes take them into the library and enter notes as they read their sources, despite the inconvenience that often results. In most cases, though, you will find it works best to take notes on cards, then afterward enter them and your bibliographical references into your word processor. You can type notes into one central file and distribute them later to separate files by topic or distribute them as you go along.

As you proceed, take great care to distinguish between your notes and your thoughts about them. One good way to do this is to establish some system, such as typing notes in boldface and putting brackets around your thoughts. To avoid inadvertently using the exact words of others without giving proper credit, always put quotation marks around directly quoted material. As an added safeguard you might also use different spacing for quotations. To identify the sources of your notes, you could number them to match the number of the source or end each note with the author's name. For an anonymous source use a shortened title. Finally, don't neglect to keep printouts of your notes and bibliography to guard against accidental erasure or a power surge.

**OUTLINING**

Many word-processing programs provide options that facilitate outlining. With some programs you can compare two arrangements side by side; others enable you to call up your stored and organized notes on one side of the screen and create your outline on the other side.

Don't let limitations of your software cramp your explorations of possibilities. If your program lets you compare two outlines but you'd like to check more, make a second and if necessary a third printout; then examine them side by side. Similarly, if an outline includes more items than a single screen can accommodate, continue on a second screen and use printouts to check the complete product.

**DRAFTING**

Students follow different approaches when drafting on a computer. Some follow the outline section by section, entering their notes and any thoughts that previously occurred to them, then go through everything again and add material. Others finish off one section before moving on to the next, some by focusing on their notes and then developing thoughts that elaborate on them, others by developing their thoughts and working in their notes afterward. Follow the procedure that works best for you.

When you write the paper, fight the urge simply to string your notes together. Such an approach results in a draft that lurches from one bit of information to another without consistent style or proper attention to the underlying thesis. If you find yourself merely typing in notes, stop, open a separate file, read each note carefully, and then enter your thoughts concerning it. When you've examined all the notes, begin the drafting process over again, integrating your notes and your thoughts in the new file.

As you compose, don't overfill any of your files; too many words leave little room for
revision. You can avoid this problem by establishing a separate file for each section of your paper.

**REVISING AND FORMATTING**

Students often hesitate to revise research papers because of their length. A word processor gives you an edge. You can isolate sections and experiment with them; move large sections of the text around; or, if you used separate files for different sections, change transitions to reflect different orders. When you make such changes, check to see that you maintain the flow of the paper. An adjustment in one section must mesh logically and stylistically with what precedes and follows. Reviewing a printout offers the best opportunity to check your paper's continuity. As you revise, always keep copies of earlier versions. Some part that seemed ineffective may fill a gap or take on a new look in view of your changes.

Finally, the formatting capabilities of word-processor software can be a powerful asset. Most programs will position page numbers, set margins properly, and add your name at the top of each page. Some programs will also indent bibliographic entries properly. Don't, however, neglect your instructor's specifications with regard to spacing, print style, and the like.

**USING IMAGES, ILLUSTRATIONS, AND GRAPHS**

Computer programs make it easy to import photographs, illustrations, and graphs into an essay and report. Visuals can be useful. An essay on different kinds of cats would be enhanced by pictures of cats. The best way to explain the bones in the skull is a labeled drawing. Complicated numbers can be presented best through the appropriate graphs or charts.

**General Principles for Using Visuals**

- **Use visuals only when they help.** Excess visuals detract from a text; visuals should be used when they are the best way of presenting the information. Cliched clip art only detracts from important messages.
- **Visuals should fit the text.** Visuals shouldn't be just thrown in. Instead, they should have a connection to nearby text so that the meanings are related.
- **Visuals need to be explained.** Visuals don't always stand on their own. You need to explain to readers why they should look at the visual and direct their attention to what they should notice. With graphs and tables, it is helpful to explain first what to look for in the visual and then, after the visual, identify the major conclusion the readers could reach from the visual.
- **Visuals often need a title.** To direct the reader's attention, label all visuals. The title should tell the story of the visual.
- **Place visuals so they don't break up the text.** You want your page to be attractive but not distracting. Visuals need to be positioned so the page looks good but the flow of the text is not seriously interrupted.
- **Visuals should be honest.** It is important to represent the data fairly and not distort the image or graph to slant the information.

**Pictures** The use of a scanner or digital camera makes it easy to import pictures, which can spice up the text. We have used pictures of the authors in the Reader so that they will come alive for you. If you use pictures, make certain they are clear and simple. Readers shouldn't have to spend time trying to decipher the picture.

**Tables** Including tables with columns and rows is an excellent way of comparing information such as the features of different computers, the quantity of sales, or even the quality of different employees. Make certain your table is clearly labeled. See Table 21.1 for an example.

<table>
<thead>
<tr>
<th>Table 21.1</th>
<th>Use Different Classroom Media for Different Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features</strong></td>
<td><strong>Blackboard</strong></td>
</tr>
<tr>
<td>Class Time Used</td>
<td>Extensive; text</td>
</tr>
</tbody>
</table>
**Equipment Required**

<table>
<thead>
<tr>
<th></th>
<th>Written out in class</th>
<th>Before class</th>
<th>Before class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually in every classroom</td>
<td>In most classrooms or easily obtained</td>
<td>Limited by limited number of computers and screens</td>
<td></td>
</tr>
</tbody>
</table>

**Information Presented**

<table>
<thead>
<tr>
<th></th>
<th>Text and handdrawn images or low-resolution graphs</th>
<th>Text and images or graphs; variable resolutions</th>
<th>All text and visuals with good resolution</th>
</tr>
</thead>
</table>

**Flexibility in Classroom Environment**

<table>
<thead>
<tr>
<th></th>
<th>Plans can be easily changed; readily accepts new direction and student input</th>
<th>Limited flexibility; order can be varied between overheads; can write on blank overheads</th>
<th>Limited; hard to change order of presentation or enter new input</th>
</tr>
</thead>
</table>

---

**Pie Charts**

Pie charts are an excellent way to present percentages or quantities of a whole.

**Bar Graphs**

Bar graphs can help you present and compare data that isn't a continuous trend, as Figure 21.18 shows.

**Line Graphs**

Line graphs are an excellent way to show data that are continuous over time and shows trends effectively. See Figure 21.19 for an example.

---

**Headers, Numbered Lists, and Bullets**

Information in longer reports is not always presented in an unbroken stream of text. You can use a number of devices to help readers.

- **Bold headings and subheadings can guide the reader to different sections of the text.** When the sections of a longer report, or even a shorter business memo, can be broken into distinct sections, it can be helpful to label those sections with bold words or phrases that will direct the reader's attention. This text uses headings and subheadings and so do some of the articles in the Reader such as "Blur: Cheetahs. Ranchers. Hope" (pages 588-592).
- **Lists can be a useful way to present organized information.** Steps in a process, several recommendations, the identification of important qualities can all be well represented by an indented list. The discussion questions in this text are all presented as numbered lists.
- **Bullets are used when listed information shouldn't be numbered becausethere is no implied sequence.** The recommendations for using visuals in this section are presented as a bulleted list. Lists and bullets should use parallelism, the same grammatical form, discussed on pages 665-666.

---

**Writing Your Research Paper Checklist**

**Search Checklist**

- Brainstorm to focus your topic.
- Get an overview by searching general references such as encyclopedias.
- Search your library for books.
  
  Use either key term or subject searches using a computer catalog. Copy or print out the call number that locates the book. Scan the books in your located section for unexpected finds.
- Search your periodical indexes and databases.
  
  Select an index or database that fits your topic. InfoTrac and Wilson Select are often useful starting indexes. Use either key term or subject searches. Use the headings you find to narrow or guide your search. Print or copy the title of the articles, the author, the magazine, the volume number, the page number, and the date. If you use a full text of an online article, be sure to copy the reference information. Find the hard copy,
microfiche, or microfilm version of your article.

- Search the Internet.
  - Use an appropriate search engine such as Google or Yahoo.
  - Try several combinations of terms or modify them to narrow a search.
  - Assess the credibility of all Internet sources based on the source for the site, author, quality of the Web pages, consistency with other credible information.
  - Be sure to copy or print the URL, author (if any), and title (if any).

**Taking Notes Checklist**

- Evaluate your source by author's qualification, publication's credibility, and obvious bias.
- Take notes using cards, yellow pad, or computer file.
  - Keep track of source and page number for each note.
  - You may want to cross-reference notes with bibliography cards.
  - Give a title to each note card that identifies the notes topic.
- Respond as you take notes with your own thoughts and observations.
- Consciously decide to summarize, paraphrase, or quote in your notes.
  - If you paraphrase, it must be completely in your own words. If you quote, be sure to mark your quotes so you don't forget.
- Always consciously work to avoid plagiarism.
  - Always carefully record your sources for notes. Do not simply change a few words in a paraphrase. Do not forget to mark quotes when you quote. Ask your teacher or a tutor if you are not sure of the rules.

**Drafting Your Paper Checklist**

- Take steps to integrate your information.
  - Read over your notes.
  - Possibly write a brief draft without looking at your notes.
- Write an outline.
  - Determine the main divisions of your paper. Read note cards for subdivisions. Detail either a sentence or topic outline.
- Key your note cards to your outlines.
- Determine if you need to perform additional research.
- Draft your paper in sections.
  - Work to keep the paper in your own voice.
  - Don't get stuck on the introduction. Just write.
  - Use your notes to support your claims but don't just cut and paste.
  - Be sure to document as you write. Avoid plagiarism.
  - Create deliberate transitions between sections.
  - Go back and rework the introduction and conclusion.
  - Carefully document using the material from the next chapter.

**Revising Your Draft Checklist**

- Do not be afraid to make extensive changes.
- Read and change the paper with an eye to your original purpose.
- Get feedback from other readers.
- Check for material that doesn't fit and needs to be cut.
- Check for holes that may require additional research and do it if needed.
- Check your notes to see that you didn't leave out something important.
- Check to see that the paper is easy to follow.
- Smooth your transitions and add transition paragraphs where needed.
- Make certain the draft is in a consistent voice.
DOCUMENTING SOURCES

In order to acknowledge and handle sources, you must know how to (1) prepare proper bibliographical references, (2) document sources within your text, (3) handle quotations, and (4) avoid plagiarism.


PREPARING PROPER MLA AND APA BIBLIOGRAPHIC REFERENCES

BOOKS
The basic bibliographic reference for a book includes the name of the author, the title of the book, the place of publication, the name of the publisher, and the date of publication. Other information is added as necessary. The order of presentation depends on which system of listing sources, the MLA or APA, is used. Note that the APA system uses initials rather than first and middle names for authors, editors, and translators.

A Book with One Author

A Book with Two Authors

Note that the APA system reverses the name of the second author and uses "&" instead of "and" between the names. In titles and subtitles, only the first word and proper nouns and adjectives are capitalized. Both the MLA and APA systems use the hanging indent for entries in the reference list. Start the first line of each entry flush to the left margin and indent all subsequent lines five spaces.

A Book with More Than Three Authors

The MLA system permits the use of "et al." for four or more authors or editors (listing all authors is also permitted); the APA system gives up to and including six author or editor names in the reference list. Substitute "et al." for the seventh or more.

A Book with a Title That Includes Another Title
The MLA offers two options: You may omit underlining the embedded title, or you may set it off with quotation marks.

The APA offers no guidelines for this specific situation. However, the general guidelines for italics apply if you use the first option.


**A Book with Corporate or Association Authorship**


When the author of the work is also the publisher, the APA system uses the word "Author" following the place of publication. If the work is published by another organization, its name replaces "Author."

**Edition Other Than the First**


**Book in Two or More Volumes**


**Reprint of an Older Work**


**Book with an Editor Rather Than an Author**


**Book with Both an Author and an Editor**


**A Translation**


**An Essay or Chapter in a Collection of Works by One Author**

Harcourt, 1925. 111-18.


- **An Essay or Chapter in an Anthology**


**PERIODICALS**

Periodicals include newspapers, popular magazines, and specialized occupational and scholarly journals. The basic information for a periodical article includes the name of the article's author, the name of the periodical, the title of the article, the date of publication, the page range of the entire article, and, for scholarly journals, the volume number of the periodical. Again, the order of presentation depends on the documentation system used. The MLA and APA systems capitalize periodical titles identically; however, the MLA style omits an introductory *the* from these titles. As illustrated by our example for a signed article in a daily newspaper, the two systems follow different formats for showing when an article does not appear on consecutive pages. Note also that the systems capitalize the titles of articles differently and that the APA system precedes page numbers for newspaper articles with "p." or "pp."

- **An Article in a Scholarly Journal Consecutively Paged through the Entire Volume**


- **An Article in a Scholarly Journal That Pages Each Issue Separately**


- **An Unsigned Article in a Scholarly Journal**


- **A Signed Article in an Occupational or a Popular Magazine**


- **An Unsigned Article in an Occupational or a Popular Magazine**


- **A Signed Article in a Daily Newspaper**


- **An Unsigned Article in a Daily Newspaper**


**ENCYCLOPEDIA ARTICLES**

When documenting familiar works, such as the *Encyclopedia Americana*, the basic information for the MLA system includes the name of the article's author if known, the title of the article, the name of the encyclopedia, and the date of the edition.


The APA system requires additional information for all encyclopedia citations, as does the MLA system when less familiar publications are documented. Again, the order of presentation differs for the two systems.


For an anonymous article, references for both the MLA and APA systems begin with the article's title. With the APA system, position the publication date, within parentheses, after this title. The remaining format is identical to the citations with an author.

**GOVERNMENT DOCUMENTS**

The basic information for a federal, state, or foreign government publication that is documented using the MLA system includes the name of the author, the title of the publication, the name of the government and the agency issuing the publication, the place of publication, the name of the printing group, if known, and the date. If no author is named, begin by identifying the government and then cite the government agency as the author. The APA system presents similar information but omits the government name, adds a cataloging code where one exists, and follows a different order of presentation.


**OTHER SOURCES**

The information presented and the order of presentation depend on the type of source and the documentation system.

- **Book Reviews**


If the review is untitled, follow the above formats but omit the missing element.

- **Published Interviews**


The APA system does not include a documentation format for published interviews. If you are using the APA format and your paper includes material from a published interview, we suggest that you document as follows:


If the interview is untitled, use, in place of a title, the word "Interview," without quotation marks or underlining, for the MLA system. For the APA system, follow the example above, omitting mention of a title.

- **Personal Interviews**

If you conducted the interview yourself and are using the MLA system, start with the name of the person interviewed and follow it with the kind of interview and the date conducted.


For the APA system, a personal interview is considered personal correspondence and is not included in the References list. Instead, use an in-text parenthetical citation. Include the name of the person interviewed, the notation "personal communication," and the date: (P. Newman, personal communication, May 18, 2001).

- **Audiovisual Media**


If you are interested in the contribution of a particular person, start with that person's name. Use the term *film* in MLA format, and use the same model for videocassette and DVD recordings.


In the APA format, the citation begins with an individual's name and his or her contribution to the *motion picture* (use this term, not *film*). The country of origin (where it was made and released) is now required.


- **Television and Radio Programs**


Use these formats when additional information is pertinent:


With the APA system, the name of the script writer appears in the author's position. Any in-text references begin with the first name in the bibliographical reference (for example, Exton, 1993).

**Music and Sound Recordings**


In MLA style, list the medium (Audiocassette, LP, etc.) only when the recording is not a CD. If you mention the name of a particular item on the recording, set it off with quotation marks, as shown below. If the recording date is important, place it before the medium.


The APA format requires indetification of all formats, including a CD:


Recording dates, if different from the copyright year, follow the entry, enclosed in parentheses, with no final period.

**Computer Software**


In the APA system, only specialized software or computer programs are listed in the References. Standard commercial software and languages should be cited by their proper name and version in the text itself.

**CD-ROMs and Other Databases**


The APA Manual (5th ed.) takes the view that all aggregated databases are the same type of source, regardless of the format or manner of access (CD-ROM, library or university server, or online Web supplier). Follow the model above when you need to cite an entire CD-ROM (not a document from it). In a reference to information taken from a database (even a CD-ROM), give a "retrieval statement" containing the date you retrieved the document, article, piece of data, as well as the full, correct name of the database. When you retrieve information from an online database, end the entry with a correct and complete URL for the specific document or version. In this case, the name of the database is omitted, unless this information will help in retrieval from a large or complex site. (See online models in the next section.)

**Online Sources**

The most recent edition of the *Publication Manual of the American Psychological Association* provides the APA's newest guidelines for documenting online sources. You can also consult the association's Web site for its most up-to-date information about citing electronic sources:

[http://www.apastyle.org/elecref.html](http://www.apastyle.org/elecref.html)

The examples here follow the published guidelines for the MLA (2003) and the APA (2001).
Be sure to ask your instructor which format to follow and then use that format consistently. Often, data from the Internet are incomplete, perhaps lacking an author, a title, or any recognizable page or paragraph number. Include all the available information. The recommendation from APA is that you cite document locations rather than home pages and that the referenced address actually works for that file. Remember: Your goal is to allow your reader to find the source. When the actual address is extremely long or unusable, the MLA allows you to use the home page for your source.

■ **Books**

The basic information for a book documented by the MLA system includes the name(s) of the author(s), if known; the title of the book; the place and date of original publication, if applicable; the electronic site, if named; the date of electronic publication if the online version has never been published in print, or if it is part of a scholarly project; the sponsor of the site; the date the material was retrieved; and the online address.


The APA *Publication Manual* does not show a model for documenting online books; however, the *Manual* treats all nonperiodical Internet documents in one category, including multpage or multipart documents such as books or reports. Follow the general guidelines for a printed book and conclude with appropriate electronic source information, as modeled here.


When some of the basic information is not provided, use whatever is available.


To cite part of an electronic book, place the part's title after the name(s) of the author(s) or, in APA format, after the date of publication. APA also cites a chapter or section identifier following the title of the complete document.


■ **Periodicals on the World Wide Web**

Periodicals online include specialized occupational and scholarly journals, popular magazines, newspapers, and newsletters. The basic information for a periodical includes the author's name, if known; the title of the article; the tide of the periodical; the volume number; the date the article was published; the number of paragraphs in the article or its page numbers; the date the material was retrieved; and the online address.

The APA recommends using the models for print periodicals when documenting online articles that do not vary from their printed versions. In such cases, add [Electronic version] after the title
and before the period to complete the citation. When the electronic format alters the printed version (e.g., no pagination, added data or links), then cite as an online document, using a retrieval statement and the name of the database and/or the URL. APA guidelines ask for the identification of the server or the Web site in a retrieval statement only when it would be helpful in finding the source; for example, it is not necessary to state "Retrieved from the World Wide Web" since it is the most common access point to the Internet.


Periodicals Accessed through an Online Library Service or Large Network Provider

Increasingly, full-text articles are available online at libraries or at home through services such as Lexis-Nexis, ProQuest Direct, and America Online. These services may or may not provide an online address for accessed material. If you know the service's home page, and you're documenting by the MLA system, cite the author's name, if known; the title of the article; the title of the periodical; the date the article was published; the page numbers for the article (If the service identifies only the initial page of the article, indicate the page followed by a hyphen, 132-); the name of the database; the name of the library service; the name of the library; the date the material was accessed; and the online address of the service's home page.


The APA documentation system provides the same information but omits online addresses except World Wide Web addresses.


For MLA style, when no online address is provided, it is necessary to identify the keyword or keywords (the path) you used to find the material.

Mayo Clinic Health Information: Lung Cancer. 21 Feb. 2000. America Online. 10
June 2000. Keywords: Cancer; Lung Cancer.


If you had accessed this source through a library, you would name the library after you named the service. APA style prefers that the URL that leads directly to the document file be provided, following the word from.

**Encyclopedia Articles**

The basic information for an encyclopedia article accessed through the World Wide Web includes the author's name, if known; the title of the article; the name of the encyclopedia; the date of the edition; and the online address. MLA style also names the vendor. For encyclopedia articles accessed through a CD-ROM, name this media after the title of the database for MLA format. The format is not required information in APA style, unless this information is needed for retrieval.


**Government Documents**

The basic information for a government document includes the name of the author, if known; the title; the name of the government and agency issuing the document; the place of publication and printing group, if known; the date of publication; the date the material was retrieved; and the online address. If no author is given, begin by identifying the government and then give the government agency as the author. For the APA system, omit the government name, and add a cataloging code if one is available.


**Personal Home Page**

The basic information for a personal home page documented according to the MLA system includes the name of its originator, if known; the title of the site, if any (use Home page or other such description if no title is given); the date the material was retrieved from the site; and the online address.


The APA Manual offers no specific guidelines for personal home pages. We suggest that you follow the following pattern, which conforms to general APA practice. Note that the APA system, unlike the MLA, includes the date of the latest Web page revision, if known, in parentheses.

**Newsgroups, Electronic Mailing Lists, and E-mail**

MLA gives guidelines for including newsgroups, electronic mailing lists (sometimes called listservs), and e-mail within the Works Cited list. APA format treats e-mail as personal communications, which are cited in parentheses in the text only. Newsgroups, online forums, discussion groups, and electronic mailing lists that maintain archives can be cited in the References, but the APA cautions that there must be a scholarly purpose. When in doubt, treat as a personal communication.


### Handling In-Text Citations

Both the MLA and APA systems use notations that appear within the text and are set off by parentheses. The systems are illustrated by the following examples.

**Basic Citation Form**

For the MLA system, the citation consists of the last name of the author and the page numbers of the publication in which the material originally appeared. The APA system adds the year to the citation. At the writer's option, the items may be grouped in parentheses or separated, as shown in the following examples. The bibliographic references preceding the passages follow the MLA format.

**Bibliographic Reference**

**Passage and Citation**

A mania for the Internet has invaded many important aspects of our culture. Newspapers run stories on it, businesses have rushed to set up Web sites, and the Speaker of the House of Representatives has stated that even our poorest children have a stake in the Internet (Rothenberg 59).

Rothenberg states that a mania for the Internet has invaded many important aspects of our culture. Newspapers run stories on it, businesses have rushed to set up Web sites, and the Speaker of the House of Representatives has stated that even our poorest children have a stake in the Internet (59).

... our poorest children have a stake in the Internet (Rothenberg, 1996, p. 59).

Rothenberg (1996) states ... have a stake in the Internet (p. 59).

**Bibliographic Reference**

**Passage and Citation**

Four different autopsy reports were filed. All the reports agreed that there was a cancerous ulcer in Napoleon's stomach, but none of them declared that the cancer was the cause of death. Nevertheless, cancer has become accepted as the cause (Weider and Hapgood 72).
... Nevertheless, cancer has become accepted as the cause (Weider & Hapgood, 1982, p. 72). If a source has more than three authors (more than six for the APA), use "et al.," meaning "and others," for all but the first-named one.

Bibliographic Reference

Passage and Citation
Although no one knows for certain just when Francis Beaumont and John Fletcher started collaborating, by 1610 they were writing plays together (Baugh et al. 573).

Authors with the same last name
If your citations include authors with the same last name, use the initials of their first names to distinguish them.

Bibliographic References

Passage and Citation
As early as 1966, government studies showed that dioxin-contaminated 2,4,5-T caused birth defects in laboratory animals. Later studies also found that this herbicide was to blame for miscarriages, liver abscesses, and nerve damage (J. Adler 32).

Separate works by the same author
If your references include two or more works by the same author, add shortened forms of the titles to your in-text citation if you follow the MLA system. Underline shortened book titles and use quotation marks around article and essay titles. For the APA system, use the conventional name-date-page number entry.

Bibliographic References

Passage and Citation
MLA As the rangers evacuated students, the marines launched another offensive at Grand Mai Bay, then moved south to seize the capital and free the governor (Mullin, "Why the Surprise" 33).

As the APA example illustrates, if the two works appeared in the same year, put an "a" or a "b," without quotes, after the date to identify whether you are referring to the first or second entry for that author in the bibliography.

Two sources for the same citation
If two sources provide essentially the same information and you wish to mention both in one
parenthetical citation, alphabetize them according to their authors' last names, give them alphabetically with a semicolon between them, and position the citation as you would any other citation.

**Bibliographic References**


**Passage and Citation**

In contending that a 3 percent reduction in state funding for community colleges would not significantly hamper their operations, the governor overlooked the fact that community college enrollment was expected to jump by 15 percent during the next year (Bryce A4; Warshow A2).

... enrollment was expected to jump by 15 percent during the next year (Bryce, 1988, p. A4; Warshow, 1988, p. A2).

**UNSIGNED REFERENCES**

When you use a source for which no author is given, the in-text citation consists of all or part of the title, the appropriate page numbers, and, for the APA system, the date.

**Bibliographic Reference**


**Passage and Citation**

According to the General Accounting Office, repairing the country's dilapidated school buildings would carry a price tag of over 110 billion dollars.

Furthermore, constructing the 6,000 buildings needed to end classroom overcrowding would cost many billions more ("Money and Classes" 10).

... many billions more ("Money and classes," 1997, p. 10).

**CITING QUOTATIONS**

When the quotation is run into the text, position the citation as shown below.


**Passage and Citation**

U.N. investigators who have studied the extent of child labor in third-world countries estimate that "as many as 200 million children go to work rather than to school [...] making everything from clothing and shoes to handbags and carpets" (Schapiro 205).

"... handbags and carpets" (Schapiro, 1996, p. 205).

With longer, indented quotations, skip two horizontal spaces after the end punctuation and type the reference in parentheses.

**Bibliographic Reference**


**Passage and Citation**

One commentator offers this assessment of why foreign terrorist groups don't operate in this
country:
The reason that America has been spared so far, apparently, is that it is less vulnerable than Europe, especially to Middle Eastern extremists. Moving in and out of most European countries isn't difficult for non-Europeans; border controls are negligible. But American customs and immigration authorities, being hyper-alert to drug traffic, tend to pay attention to even marginally doubtful people, and a would-be terrorist [...] could come under surveillance for the wrong reason. (Newhouse 63)

... come under surveillance for the wrong reason. (Newhouse, 1985, p. 63)

**INDIRECT CITATIONS**

If you use a quotation from person A that you obtained from a book or article written by person B, or you paraphrase such a quotation, put "qtd. in" before the name of the publication's author in the parenthetical reference.

- **Bibliographic Reference**

- **Passage and Citation**
  Rudolph Giuliani favors the death penalty for "the murder of a law-enforcement officer, mass murder, a particularly heinous killing" but would impose it only "when there is certainty of guilt well beyond a reasonable doubt" (qtd. in Klein 37).
  "... there is certainty of guilt well beyond a reasonable doubt" (qtd. in Klein, 1989, p. 37).

**Authors Identified in Text**

Sometimes you'll want to introduce a paraphrase, summary, or quotation with the name of its author. In this case the page number may be positioned immediately after the name or follow the material cited.

- **Bibliographic Reference**

- **Passage and Citation**
  Susan Jacoby (80) sums up the grim outlook of patients in bad nursing homes by noting that they are merely waiting to die.
  Susan Jacoby sums up the grim outlook of patients in bad nursing homes by noting that they are merely waiting to die (80).
  Susan Jacoby (1974, p. 80) sums up ...
  Susan Jacoby (1974) sums up ...
  ... waiting to die (p. 80).

**HANDLING QUOTATIONS**

Set off quotations fewer than five lines long (fewer than forty words long for the APA system) with quotation marks and run them into the text of the paper. For longer quotes, omit the quotation marks and indent the material ten spaces from the left margin (five spaces for the APA system). Double-space the typing. If you quote part or all of one paragraph, don't further indent the first line. If you quote two or more consecutive paragraphs, indent each one's first line three additional spaces (five for the APA system). Use single quotation marks for a quotation within a shorter quotation and double marks for a quotation within a longer, indented
quotation. The following examples illustrate the handling of quotations. The documentation and indentation follow the MLA guidelines.

- **Short Quotation**
  Ellen Goodman offers this further observation about writers who peddle formulas for achieving success through selfishness: "They are all Doctor Feelgoods, offering placebo prescriptions instead of strong medicine. They give us a way to live with ourselves, perhaps, but not a way to live with each other" (16).

- **Quotation within Short Quotation**
  The report further stated, "All great writing styles have their wellsprings in the personality of the writer. As Buf fon said, 'The style is the man'" (Duncan 49).

- **Quotation within Longer, Indented Quotation**
  Barbara Tuchman's *The Proud Tower* presents a somewhat different view of the new conservative leaders:

  Besides riches, rank, broad acres, and ancient lineage, the new government also possessed, to the regret of the liberal opposition, and in the words of one of them, "an almost embarrassing wealth of talent and capacity." Secure in authority, resting comfortably on their electoral majority in the House of Commons and on a permanent majority in the House of Lords, of whom four-fifths were conservatives, they were in a position, admitted the same opponent, "of unassailable strength." (4)

  Always provide some context for material that you quote. Various options exist. When you quote from a source for the first time, you might provide the author's full name and the source of the quotation, perhaps indicating the author's expertise as well. The passage just above omits the author's expertise; the passage below includes it.

  Writing in *Newsweek* magazine, Riena Gross, chief psychiatric social worker at Illinois Medical Center in Chicago, said, "Kids have no real sense that they belong anywhere or to anyone as they did ten or fifteen years ago. Parents have loosened the reins, and kids are kind of floundering" (74).

  Or you might note the event prompting the quotation and then the author's name.

  Addressing a seminar at the University of Toronto, Dr. Joseph Pomeranz speculated that "acupuncture may work by activating a neural pain suppression mechanism in the brain" (324).

  On other occasions you might note only the author's full name and expertise.

  Economist Richard M. Cybert, president of Carnegie-Mellon University, offers the following sad prediction about the steel industry's future: "It will never be as large an industry as it has been. There are a lot of plants that will never come back and many laborers that will never be rehired" (43).

  When quoting from a source with no author given, introduce the quotation with the name of the source.

  Commenting upon the problems that law enforcement personnel have in coping with computer crime, *Credit and Financial Management* magazine pointed out, "A computer crime can be committed in three hundredths of a second, and the criminal can be thousands of miles from the 'scene,' using a telephone" ("Computer Crime" 43).

  After first citing an author's full name, use only the last name for subsequent references.

  In answering the objections of government agencies to the Freedom of Information Act, Wellford commented, "Increased citizen access should help citizens learn of governmental
activities that weaken our First Amendment freedoms. Some administrative inconvenience isn't too large a price to pay for that" (137).

Page numbers are not helpful when you cite passages from plays and poems since these literary forms are available in many editions. When you quote from a play, identify the act, scene, and line numbers. Use Arabic numbers separated by periods. Here's how to cite Act 2, Scene 1, lines 295-300 of Shakespeare's Othello:

That Cassio loves her, I do well believe it;
That she loves him, 'tis apt, and of great credit:
The Moor, how be it that I endure him not.
Is of a constant, loving, noble nature;
And I dare think he'll prove to Desdemona
A most dear husband. (Othello 2.1. 295-300)

When quoting from a short poem, use "line" or "lines" and the line number (s).

In "Dover Beach," Matthew Arnold offers this melancholy assessment of the state of religion:

The Sea of Faith
Was once, too, at the full,
and round earth's shore
Lay like the folds of a bright girdle furl'd.
But now I only hear
Its melancholy, long, withdrawing roar, (lines 21-25)

In quoting poetry that has been run into the text, use a slash mark (/) to indicate the shift from one line to the next in the original:

In his ode "To Autumn," Keats says that Autumn is the "Season of mists and mellow fruitfulness, / Close bosom-friend of the maturing sun" (lines 1-2).

AVOIDING PLAGIARISM

Plagiarism occurs when a writer uses another person's material without properly acknowledging the debt. Sometimes plagiarism is deliberate, but often it happens because students simply don't understand what must be acknowledged and documented. Deliberate or not, plagiarism is absolutely unacceptable. Any summary, paraphrase, or quotation you include in your paper must be documented as must statistics and graphics. The only types of information escaping this requirement are those listed below:

1. Common knowledge. Common knowledge is information that most educated people would know. For instance, there's no need to document a statement that the Disney theme parks in California and Florida attract thousands of visitors each year. However, if you include precise daily, monthly, or yearly figures, then documentation is necessary.

2. Your own conclusions. As you write your paper, you'll incorporate your own conclusions at various points. (See the margin notes accompanying Keith Jacque's library research paper, page 372, for examples.) Such comments require no documentation. The same holds true for your own research. If you polled students on a campus issue, simply present the findings as your own.

3. Facts found in many sources. Facts such as the year of Shakespeare's death, the size of the 2001 national budget surplus, and the location of the Taj Mahal need not be documented.

4. Standard terms. Terms widely used in a particular field require no documentation. Examples include such computer terms as mouse, floppy disk, and download.
Any piece of information not set off with quotation marks must be in your own words. Otherwise, even though you name your source, you plagiarize by stealing the original phrasing. The following passages illustrate the improper and proper use of source material.

**Original Passage**

One might contend, of course, that our country's biological diversity is so great and the land is so developed—so criss-crossed with the works of man—that it will soon be hard to build a dam anywhere without endangering some species. But as we develop a national inventory of endangered species, we certainly can plan our necessary development so as to exterminate the smallest number possible.[...]


**Plagiarism**

Our country's biological diversity is so great and the land is so developed that it will soon be hard to build a dam anywhere without endangering some species. But as we develop a national inventory of endangered species, we certainly can plan our necessary development so as to exterminate the smallest number possible.

This writer clearly plagiarizes. The absence of Buckley's name and the failure to enclose his words in quotation marks create the impression that this passage is the student's own work.

**Plagiarism**

Our country's biological diversity is so great and the land so developed that in the near future we may pose a threat to some creature whenever we construct a dam. By developing a national inventory of endangered species, however, we can plan necessary development so as to preserve as many species as possible (Buckley 1144).

This version credits the ideas to Buckley, but the student has plagiarized by failing to put quotation marks around the phrasing (underlined here) that was copied from the original. As a result, readers will think that the passage represents the student's own wording.

**Proper Use of Original**

America has so many kinds of plants and animals, and it is so built up, that in the near future we may pose a threat to some living thing just by damming some waterway. If, however, we knew which of our nation's plants and animals were threatened, we could use this information to preserve as many species as we can (Buckley 1144).

This student has identified the author and used her own words. As a result, no plagiarism occurs.

Plagiarism is a serious offense because it robs the original writer of recognition. Students caught plagiarizing risk failure in the course or perhaps suspension from school. Whenever you are unsure whether material requires documentation, supply a reference. And always handle direct quotations by following the guidelines beginning on page 402.
ARGUMENT

Reading Strategies
1. Identify the background of the author if possible. Does the author bring any expertise or experience that helps make the argument more credible?
2. Read the introduction and conclusion to gain a sense of the thesis and main points of the argument.
3. Read the argument quickly to gain an overall sense of the major points of the essay and an understanding of the organizational pattern.
4. Look for the organizational pattern of the essay and keep an eye out for transition sentences. Often an author argues by first presenting the viewpoint of several other authors, then pointing out limitations of those views, then presenting his or her own position and offering support, and finally admitting possible limitations and problems with the author's position (possibly answering these objections). This pattern often confuses readers.
5. Read carefully to identify the major claims of the argument, the reasons for the author's position, and any evidence presented for any of the claims. It can be very helpful to outline an argument, making a special note of the major reasons and evidence for the claim. Note the author's approach. Is the argument mostly deductive or inductive? Does the author try to show the negative consequences of opposing views? Does the author base the argument on authority?

Reading Critically
1. Check to see if the author demonstrates any overt bias.
2. Test to determine if the reasons given really support the author's thesis.
3. Test to see if the evidence is adequate. Does the evidence support the claims? Is the source of the evidence trustworthy and unbiased? Is the evidence extensive or scanty? Could contrary evidence be offered?
4. Check the essay for informal fallacies.
5. Try to offer objections to the author's claims. Write objections in the margins or on a separate piece of paper.
6. See if you can formulate alternative conclusions to those proposed by the author.
7. Try to formulate reasons and concerns that the author may have neglected.
8. Read essays that present other viewpoints and compare.

Reading As a Writer
1. Note the organizational pattern of the argument. Identify how you might use the pattern in your arguments.
2. Examine how the writer connects the reasons with the major thesis.
3. Identify how the evidence is presented and connected as support.
4. Notice any effective word choice that helps cement the emotional argument.
5. Evaluate how the author establishes tone and ethos.
6. Examine how the author answers possible objections.

VIRGINIA POSTREL: Yes, Don't Impede Medical Progress

Virginia Postrel graduated with a degree in English from Princeton University. She was the editor of Reason Magazine from 1988 to 2000 and received the Free Press Association's Mencken Award for Commentary based on her editorials. More recently she has been writing the economic scene column for the New York Times business section. In this selection, she argues that we should not get in the way of scientific progress.
1. To many biologists, the recently announced creation of a cloned human embryo was no big deal. True, researchers at Advanced Cell Technology (ACT) replaced the nucleus of a human egg with the genetic material of another person. And they got that cloned cell to
start replicating. But their results were modest. It took seventy-one eggs to produce a single
success, and in the best case, the embryo grew to only six cells before dying. That's not a
revolution. It's an incremental step in understanding how early-stage cells develop.

2. And it's far from the one hundred or so cells in a blastocyst, the hollow ball from which
stem cells can be isolated. Scientists hope to coax embryonic stem cells into becoming
specialized tissues such as nerve, muscle, or pancreatic islet cells. Therapeutic cloning, or
nucleus transplantation, could make such treatments more effective.

3. In theory, it would work like this: Suppose I need new heart tissue or some
insulin-secreting islet cells to counteract diabetes. You could take the nucleus from one of
my cells, stick it in an egg cell from which the nucleus had been removed, let that develop
into stem cells, and then trigger the stem cells to form the specific tissue needed. The new
"cloned" tissue would be genetically mine and would not face rejection problems. It would
function in my body as if it had grown there naturally, so I wouldn't face a lifetime of
immunosuppressant drugs.

4. But all of that is a long way off. ACT and others in the field are still doing very basic
research, not developing clinical therapies. Indeed, because of the difficulty of obtaining
eggs, therapeutic cloning may ultimately prove impractical for clinical treatments. It could
be more important as a technique for understanding cell development or studying the
mutations that lead to cancer. We simply don't know right now. Science is about exploring
the unknown and cannot offer guarantees.

5. Politics, however, feeds on fear, uncertainty, and doubt, and the word "cloning" arouses
those emotions. While its scientific importance remains to be seen, ACT's announcement
has rekindled the campaign to criminalize nucleus transplantation and any therapies
derived from that process. Under a bill passed by the House and endorsed by the president,
scientists who transfer a human nucleus into an egg cell would be subject to ten-year
federal prison sentences and $1 million fines. So would anyone who imports therapies
developed through such research in countries where it is legal, such as Britain. The bill
represents an unprecedented attempt to criminalize basic biomedical research.

6. The legislation's backers consider the fear of cloning their best hope for stopping
medical research that might lead to gene-level therapies. Opponents make three basic
arguments for banning therapeutic cloning.

7. The first is that a fertilized egg is a person, entitled to full human rights. Taking stem
cells out of a blastocyst is, in this view, no different from cutting the heart out of a baby.
Hence, we hear fears of "embryo farming" for "spare parts." This view treats microscopic
cells with no past or present consciousness, no organs or tissues, as people. A vocal
minority of Americans, of course, do find compelling the argument that a fertilized egg is
someone who deserves protection from harm. That view animates the anti-abortion
movement and exercises considerable influence in Republican politics.

8. But most Americans don't believe we should sacrifice the lives and well-being of actual
people to save cells. Human identity must rest on something more compelling than the
right string of proteins in a petri dish, detectable only with high-tech equipment. We will
never get a moral consensus that a single cell, or a clump of one hundred cells, is a human
being. That definition defies moral sense, rational argument, and several major religious
traditions.

9. So cloning opponents add a second argument. If we allow therapeutic cloning, they say,
some unscrupulous person will pretend to be doing cellular research but instead implant a
cloned embryo in a woman's womb and produce a baby. At the current stage of knowledge,
using cloning to conceive a child would indeed be dangerous and unethical, with a high
risk of serious birth defects. Anyone who cloned a baby today would rightly face, at the
very least, the potential of an enormous malpractice judgment. There are good arguments
for establishing a temporary moratorium on reproductive cloning.

10. But the small possibility of reproductive cloning does not justify making nucleus
transfer a crime. Almost any science might conceivably be turned to evil.
opposition by purposes. This particular misuse is neither especially likely—cell biology
labs are not set up to deliver fertility treatments—nor, in the long run, especially
threatening.

11. Contrary to a lot of scary rhetoric, a healthy cloned infant would not be a moral
nightmare, merely the not-quite-identical twin of an older person. (The fetal environment
and egg cytoplasm create some genetic variations.) Certainly, some parents might have
such a baby for bad reasons, to gratify their egos or to "replace" a child who died. But
parents have been having children for bad reasons since time immemorial.

12. Just as likely, cloned babies would be the cherished children of couples who could not
have biological offspring any other way. These children might bear an uncanny
resemblance to their biological parents, but that, too, is not unprecedented. Like the "test
tube babies" born of in vitro fertilization, cloned children need not be identifiable, much
less freaks or outcasts.

13. Why worry so much about a few babies? Because, say opponents, even a single cloned
infant puts us on the road to genetic dystopia, a combination of Brave New World and Nazi
Germany. A cloned child's genetic makeup is too well

14. known, goes the argument, and therefore transforms random reproduction into Ex'p'am's
third opposition "manufacturing" that robs the child of his autonomy. This is where the
attack broadens from nucleus transfer to human genetic engineering more generally. An
anti-therapeutic cloning petition, circulated by the unlikely duo of conservative publisher
William Kristol and archtechnophobe Jeremy Rifkin, concludes, "We are mindful of the
tragic history of social eugenics movements in the first half of the twentieth century, and
are united in our opposition to any use of biotechnology for a commercial eugenics
movement in the twenty-first century."

15. But the "eugenics" they attack has nothing to do with state-sponsored mass murder or
forced sterilization. To the contrary, they are the ones who want the state to dictate the most
private aspects of family life. They are the ones who want central authorities, rather than
the choices of families and individuals, to determine our genetic future. They are the ones
who demand that the government control the means of reproduction. They are the ones
who measure the worth of human beings by the circumstances of their conception and the
purity of their genetic makeup. They are the ones who say "natural" genes are the mark of
true humanity.

16. Winners in the genetic lottery themselves, blessed with good health and unusual
intelligence, they seek to deny future parents the chance to give their children an equally
promising genetic start. In a despicable moral equivalency, they equate loving parents with
Nazis.

17. Biomedicine does have the potential to alter the human experience. Indeed, it already
has. Life expectancy has doubled worldwide in the past century. Childbirth is no longer a
peril to mother and infant. Childhood is no longer a time for early death. The pervasive
sense of mortality that down through the ages shaped art, religion, and culture has waned.

18. Our lives are different from our ancestors’ in fundamental ways. We rarely remark on
the change, however, because it occurred incrementally. That's how culture evolves and
how science works. We should let the process continue.

DISCUSSION QUESTIONS

1. What is the thesis statement that the author is trying to support? Why does she place it
   where she does?

2. How does the author connect her argument to the broader issues of scientific progress?
   What is her implicit argument? How effective is this argument?

3. The author dedicates a significant amount of the article to answering the objections of
critics. Why is this strategy important? What are the main arguments she answers? What
argumentative strategies does she employ to answer those critics?

4. The author uses the word fear throughout the essay. How does she use this word and
what place does it have in her overall argument?

5. In her conclusion, Postrel does not address her main topic of cloning at all. What might be the reason for this strategy? What effect does this have? Is this argument tactic legitimate?

TOWARD KEY INSIGHTS

Often scientific progress is met with fear. Should scientific progress be unregulated or should society create legal and moral limits on scientific studies? What should be the basis of such limits?

If therapeutic cloning could save large numbers of lives, would it be worth the risks?

SUGGESTION FOR WRITING

Write a paper responding in more depth to one of the arguments Postrel answers.
Charles Krauthammer: Crossing Lines
Dr. Charles Krauthammer majored in political science and economics at McGill University, studied at Oxford University, and received his medical degree from Harvard. He practiced medicine and became chief resident in psychiatry at Massachusetts General Hospital. In 1978 he served as the director of psychiatric research for the Carter Administration. Since then he has written articles and commentary for The New Republic and The Washington Post, with his syndicated columns appearing in more than 100 newspapers. He won the 1987 Pulitzer Prize for distinguished commentary. In this essay he argues against cloning research.

Problem

1. You were once a single cell. Every one of the 100 trillion cells in your body today is a direct descendant of that zygote, the primordial cell formed by the union of mother's egg and father's sperm. Each one is genetically identical (allowing for copying errors and environmental damage along the way) to that cell. Therefore, if we scraped a cell from, say, the inner lining of your cheek, its DNA would be the same DNA that, years ago in the original zygote, contained the entire plan for creating you and every part of you.

2. Here is the mystery: Why can the zygote, as it multiplies, produce every different kind of cell in the body—kidney, liver, brain, skin—while the skin cell is destined, however many times it multiplies, to remain skin forever? As the embryo matures, cells become specialized and lose their flexibility and plasticity. Once an adult cell has specialized—differentiated, in scientific lingo—it is stuck forever in that specialty. Skin is skin; kidney is kidney.

3. Understanding that mystery holds the keys to the kingdom. The Holy Grail of modern biology is regenerative medicine. If we can figure out how to make a specialized adult cell dedifferentiate—unspecialize, i.e., revert way back to the embryonic stage, perhaps even to the original zygotic stage—and then grow it like an embryo under controlled circumstances, we could reproduce for you every kind of tissue or organ you might need. We could create a storehouse of repair parts for your body. And, if we let that dedifferentiated cell develop completely in a woman's uterus, we will have created a copy of you, your clone.

4. That is the promise and the menace of cloning. It has already been done in sheep, mice, soats, pigs, cows, and now cats and rabbits (though cloning rabbits seems an exercise in biological redundancy). There is no reason in principle why it cannot be done in humans. The question is: Should it be done?

5. Notice that the cloning question is really two questions: (1) May we grow that dedifferentiated cell all the way into a cloned baby, a copy of you? That is called reproductive cloning. And (2) may we grow that dedifferentiated cell just into the embryonic stage and then mine it for parts, such as stem cells? That is called research cloning.

6. Reproductive cloning is universally abhorred. In July 2001 the House of Representatives, a fairly good representative of the American people, took up the issue and not a single member defended reproductive cloning. Research cloning, however, is the hard one. Some members were prepared to permit the cloning of the human embryo in order to study and use its component parts, with the proviso that the embryo be destroyed before it grows into a fetus or child. They were a minority, however. Their amendment banning baby-making but permitting research cloning was defeated by 76 votes. On July 31, 2001, a bill outlawing all cloning passed the House decisively.

7. Within weeks, perhaps days, the Senate will vote on essentially the same alternatives. On this vote will hinge the course of the genetic revolution at whose threshold we now stand.

8. The Promise

9. This is how research cloning works. You take a donor egg from a woman, remove its nucleus, and inject the nucleus of, say, a skin cell from another person. It has been shown in animals that by the right manipulation you can trick the egg and the injected nucleus into dedifferentiating—that means giving up all the specialization of the skin cell and returning to its original state as a primordial cell that could become anything in the body.
10. In other words, this cell becomes totipotent. It becomes the equivalent of the fertilized egg in normal procreation, except that instead of having chromosomes from two people, it has chromosomes from one. This cell then behaves precisely like an embryo. It divides. It develops. At four to seven days, it forms a "blastocyst" consisting of about 100 to 200 cells.

11. The main objective of cloning researchers would be to disassemble this blastocyst: pull the stem cells out, grow them in the laboratory, and then try to tease them into becoming specific kinds of cells, say, kidney or heart or brain and so on.

12. There would be two purposes for doing this: study or cure. You could take a cell from a person with a baffling disease, like Lou Gehrig’s, clone it into a blastocyst, pull the stem cells out, and then study them in order to try to understand the biology of the illness. Or you could begin with a cell from a person with Parkinson’s or a spinal cord injury, clone it, and tease out the stem cells to develop tissue that you would reinject into the original donor to, in theory, cure the Parkinson’s or spinal cord injury. The advantage of using a cloned cell rather than an ordinary stem cell is that, presumably, there would be no tissue rejection. It’s your own DNA. The body would recognize it. You’d have a perfect match.

13. The conquest of rejection is one of the principal rationales for research cloning. But there is reason to doubt this claim on scientific grounds. There is some empirical evidence in mice that cloned tissue may be rejected anyway (possibly because a clone contains a small amount of foreign—mitochondrial—DNA derived from the egg into which it was originally injected). Moreover, enormous advances are being made elsewhere in combating tissue rejection. The science of immune rejection is much more mature than the science of cloning. By the time we figure out how to do safe and reliable research cloning, the rejection problem may well be solved. And finally, there are less problematic alternatives—such as adult stem cells—that offer a promising alternative to cloning because they present no problem of tissue rejection and raise none of cloning’s moral conundrums.

14. These scientific considerations raise serious questions about the efficacy of, and thus the need for, research cloning. But there is a stronger case to be made. Even if the scientific objections are swept aside, even if research cloning is as doable and promising as its advocates contend, there are other reasons to pause.

15. The most obvious is this: Research cloning is an open door to reproductive cloning. Banning the production of cloned babies while permitting the production of cloned embryos makes no sense. If you have factories all around the country producing embryos for research and commerce, it is inevitable that someone will implant one in a woman (or perhaps in some artificial medium in the farther future) and produce a human clone. What then? A law banning reproductive cloning but permitting research cloning would then make it a crime not to destroy that fetus—an obvious moral absurdity.

16. This is an irrefutable point and the reason that many in Congress will vote for the total ban on cloning. Philosophically, however, it is a showstopper. It lets us off too early and too easy. It keeps us from facing the deeper question: Is there anything about research cloning that in and of itself makes it morally problematic?

**Objection I: Intrinsic Worth**

17. For some people, life begins at conception. And not just life—if life is understood to mean a biologically functioning organism, even a single cell is obviously alive—but personhood. If the first zygotic cell is owed all the legal and moral respect due a person, then there is nothing to talk about. Ensoulment starts with Day One and Cell One, and the idea of taking that cell or its successor cells apart to serve someone else’s needs is abhorrent.

18. This is an argument of great moral force but little intellectual interest. Not because it may not be right. But because it is unprovable. It rests on metaphysics. Either you believe it or you don’t. The discussion ends there.

19. I happen not to share this view. I do not believe personhood begins at conception. I do not believe a single cell has the moral or legal standing of a child. This is not to say that I do not stand in awe of the developing embryo, a creation of majestic beauty and mystery. But I
stand in equal awe of the Grand Canyon, the spider's web, and quantum mechanics. Awe commands wonder, humility, appreciation. It does not command inviolability. I am quite prepared to shatter an atom, take down a spider's web, or dam a canyon for electricity. (Though we'd have to be very short on electricity before I'd dam the Grand.)

20. I do not believe the embryo is entitled to inviolability. But is it entitled to nothing? There is a great distance between inviolability, on the one hand, and mere "thingness," on the other. Many advocates of research cloning see nothing but thingness. That view justifies the most ruthless exploitation of the embryo. That view is dangerous.

21. Why? Three possible reasons. First, the Brave New World Factor: Research cloning gives man too much power for evil. Second, the Slippery Slope: The habit of embryonic violation is in and of itself dangerous. Violate the blastocyst today and every day, and the practice will inure you to violating the fetus or even the infant tomorrow. Third, Manufacture: The very act of creating embryos for the sole purpose of exploiting and then destroying them will ultimately predispose us to a ruthless utilitarianism about human life itself.

**Objection II: The Brave New World Factor**

22. The physicists at Los Alamos did not hesitate to penetrate, manipulate, and split uranium atoms on the grounds that uranium atoms possess intrinsic worth that entitled them to inviolability. Yet after the war, many fought to curtail atomic power. They feared the consequences of delivering such unfathomable power—and potential evil—into the hands of fallible human beings. Analogously, one could believe that the cloned blastocyst has little more intrinsic worth than the uranium atom and still be deeply troubled by the manipulation of the blastocyst because of the fearsome power it confers upon humankind.

23. The issue is leverage. Our knowledge of how to manipulate human genetics (or atomic nuclei) is still primitive. We could never construct ex nihilo a human embryo. It is an unfolding organism of unimaginable complexity that took nature three billion years to produce. It might take us less time to build it from scratch, but not much less. By that time, we as a species might have acquired enough wisdom to use it wisely. Instead, the human race in its infancy has stumbled upon a genie infinitely too complicated to create or even fully understand, but understandable enough to command and perhaps even control. And given our demonstrated unwisdom with our other great discovery—atomic power: As we speak, the very worst of humanity is on the threshold of acquiring the most powerful weapons in history—this is a fear and a consideration to be taken very seriously.

24. For example. Female human eggs seriously limit the mass production of cloned embryos. Extracting eggs from women is difficult, expensive, and potentially dangerous. The search is on, therefore, for a good alternative. Scientists have begun injecting human nuclei into the egg cells of animals. In 1996 Massachusetts scientists injected a human nucleus with a cow egg. Chinese scientists have fused a human fibroblast with a rabbit egg and have grown the resulting embryo to the blastocyst stage. We have no idea what grotesque results might come from such interspecies clonal experiments.

25. In October 2000 the first primate containing genes from another species was born (a monkey with a jellyfish gene). In 1995 researchers in Texas produced headless mice. In 1997 researchers in Britain produced headless tadpoles. In theory, headlessness might be useful for organ transplantation. One can envision, in a world in which embryos are routinely manufactured, the production of headless clones—subhuman creatures with usable human organs but no head, no brain, no consciousness to identify them with the human family.

26. The heart of the problem is this: Nature, through endless evolution, has produced cells with totipotent power. We are about to harness that power for crude human purposes. That should give us pause. Just around the corner lies the logical by-product of such power: human-animal hybrids, partly developed human bodies for use as parts, and other horrors imagined—Huxley's Deltas and Epsilons—and as yet unimagined. This is the Brave New
World Factor. Its grounds for objecting to this research are not about the beginnings of life, but about the ends; not the origin of these cells, but their destiny, not where we took these magnificent cells from, but where they are taking us.

Objection III: The Slippery Slope

27. The other prudential argument is that once you start tearing apart blastocysts, you get used to tearing apart blastocysts. And whereas now you'd only bedoing that at the seven-day stage, when most people would look at this tiny clump of cells on the head of a pin and say it is not inviolable, it is inevitable that some scientist will soon say: Give me just a few more weeks to work with it and I could do wonders.

28. That will require quite a technological leap because the blastocyst will not develop as a human organism unless implanted in the uterus. That means that to go beyond that seven-day stage you'd have to implant this human embryo either in an animal uterus or in some fully artificial womb.

29. Both possibilities may be remote, but they are real. And then we'll have a scientist saying: Give me just a few more months with this embryo, and I'll have actual kidney cells, brain cells, pancreatic cells that I can transplant back into the donor of the clone and cure him. Scientists at Advanced Cell Technology in Massachusetts have already gone past that stage in animals. They have taken cloned cow embryos past the blastocyst stage, taken tissue from the more developed cow fetus, and reimplanted it back into the donor animal.

30. The scientists' plea to do the same in humans will be hard to ignore. Why grow the clone lust to the blastocyst stage, destroy it, pull out the inner cell mass, grow stem cells out of that, propagate them in the laboratory, and then try chemically or otherwise to tweak them into becoming kidney cells or brain cells or islet cells? This is Rube Goldberg. Why not just allow that beautiful embryonic machine, created by nature and far more sophisticated than our crude techniques, to develop unmolested? Why not let the blastocyst grow into a fetus that possesses the kinds of differentiated tissue that we could then use for curing the donor?

31. Scientifically, this would make sense. Morally, we will have crossed the line between tearing apart a mere clump of cells and tearing apart a recognizable human fetus. And at that point, it would be an even smaller step to begin carving up seven- and eight-month-old fetuses with more perfectly formed organs to alleviate even more pain and suffering among the living. We will, slowly and by increments, have gone from stem cells to embryo farms to factories with fetuses in various stages of development and humanness, hanging (metaphorically) on meat hooks waiting to be cut open to be used by the already born.

32. We would all be revolted if a living infant or developed fetus were carved up for parts. Should we build a fence around that possibility by prohibiting any research on even the very earliest embryonic clump of cells? Is the only way to avoid the slide never to mount the slippery slope at all? On this question, I am personally agnostic. If I were utterly convinced that we would never cross the seven-day line, then I would have no objection on these grounds to such research on the inner cell mass of a blastocyst. The question is: Can we be sure? This is not a question of principle; it is a question of prudence. It is almost a question of psychological probability. No one yet knows the answer.

Objection IV: Manufacture

33. Note that while, up to now, I have been considering arguments against research cloning, they are all equally applicable to embryonic research done on a normal—i.e., noncloned—embryo. If the question is tearing up the blastocyst, there is no intrinsic moral difference between a two-parented embryo derived from a sperm and an egg and a single-parented embryo derived from a cloned cell. Thus the various arguments against this research—the intrinsic worth of the embryo, the prudential consideration that we might create monsters, or the prudential consideration that we might become monsters in exploiting post-embryonic forms of human life (fetuses or even children)—are identical to the arguments for and against stem-cell research.
34. These arguments are serious—serious enough to banish the insouciance of the scientists who consider anyone questioning their work to be a Luddite—yet, in my view, insufficient to justify a legal ban on stem-cell research (as with stem cells from discarded embryos in fertility clinics). I happen not to believe that either personhood or ensoulment occurs at conception. I think we need to be apprehensive about what evil might arise from the power of stem-cell research, but that apprehension alone, while justifying vigilance and regulation, does not justify a ban on the practice. And I believe that given the good that might flow from stem-cell research, we should first test the power of law and custom to enforce the seven-day blastocyst line for embryonic exploitation before assuming that such a line could never hold.

35. This is why I support stem-cell research (using leftover embryos from fertility clinics) and might support research cloning were it not for one other aspect that is unique to it. In research cloning, the embryo is created with the explicit intention of its eventual destruction. That is a given because not to destroy the embryo would be to produce a cloned child. If you are not permitted to grow the embryo into a child, you are obliged at some point to destroy it.

36. Deliberately creating embryos for eventual and certain destruction means the launching of an entire industry of embryo manufacture. It means the rou-tinization, the commercialization, the commodification of the human embryo. The bill that would legalize research cloning essentially sanctions, licenses, and protects the establishment of a most ghoulish enterprise: the creation of nascent human life for the sole purpose of its exploitation and destruction.

37. How is this morally different from simply using discarded embryos from in vitro fertilization (IVF) clinics? Some have suggested that it is not, that to oppose research cloning is to oppose IVF and any stem-cell research that comes out of IVF. The claim is made that because in IVF there is a high probability of destruction of the embryo, it is morally equivalent to research cloning. But this is plainly not so. In research cloning there is not a high probability of destruction; there is 100 percent probability. Because every cloned embryo must be destroyed, it is nothing more than a means to someone else's end.

38. In IVF, the probability of destruction may be high, but it need not necessarily be. You could have a clinic that produces only a small number of embryos, and we know of many cases of multiple births resulting from multiple embryo implantation. In principle, one could have IVF using only a single embryo and thus involving no deliberate embryo destruction at all. In principle, that is impossible in research cloning.

39. Furthermore, a cloned embryo is created to be destroyed and used by others. An IVF embryo is created to develop into a child. One cannot disregard intent in determining morality. Embryos are created in IVF to serve reproduction. Embryos are created in research cloning to serve, well, research. If certain IVF embryos were designated as "helper embryos" that would simply aid an anointed embryo in turning into a child, then we would have an analogy to cloning. But, in fact, we don't know which embryo is anointed in IVF. They are all created to have a chance of survival. And they are all equally considered an end.

40. Critics counter that this ends-and-means argument is really obfuscation, that both procedures make an instrument of the embryo. In cloning, the creation and destruction of the embryo is a means to understanding or curing disease. In IVF, the creation of the embryo is a means of satisfying a couple's need for a child. They are both just means to ends.

41. But it makes no sense to call an embryo a means to the creation of a child. The creation of a child is the destiny of an embryo. To speak of an embryo as a means to creating a child empties the word "means" of content. The embryo in IVF is a stage in the development of a child; it is no more a means than a teenager is a means to the adult he or she later becomes. In contrast, an embryo in research cloning is pure means. Laboratory pure.

42. And that is where we must draw the line. During the great debate on stem-cell research, a rather broad consensus was reached (among those not committed to "intrinsic worth" rendering all embryos inviolable) that stem-cell research could be morally justified because the embryos destroyed for their possibly curative stem cells were derived from fertility clinics and thus were going to be discarded anyway. It was understood that human embryos
should not be created solely for the purpose of being dismembered and then destroyed for the
benefit of others. Indeed, when Senator Bill Frist made his impassioned presentation on the
floor of the Senate supporting stem-cell research, he included among his conditions a total
ban on creating human embryos just to be stem-cell farms.

43. Where cloning for research takes us decisively beyond stem-cell research is in
sanctioning the manufacture of the human embryo. You can try to regulate embryonic
research to prohibit the creation of Brave New World monsters; you can build fences on the
slippery slope, regulating how many days you may grow an embryo for research; but once
you countenance the very creation of human embryos for no other purpose than for their
parts, you have crossed a moral frontier.

44. Research cloning is the ultimate in conferring thingness upon the human embryo. It is
the ultimate in desensitization. And as such, it threatens whatever other fences and
safeguards we might erect around embryonic research. The problem, one could almost say,
is not what cloning does to the embryo, but what it does to us. Except that, once cloning has
changed us, it will inevitably enable further assaults on human dignity. Creating a human
embryo just so it can be used and then destroyed undermines the very foundation of the
moral prudence that informs the entire enterprise of genetic research: the idea that, while a
human embryo may not be a person, it is not nothing. Because if it is nothing, then
everything is permitted. And if everything is permitted, then there are no fences, no
safeguards, no bottom.

DISCUSSION QUESTIONS

1. What are the main points of Krauthammer's argument against cloning research?
2. Krauthammer directly indicates the reasons why individuals might want cloning
research. What is the effect of this discussion on Krauthammer's argument?
3. Krauthammer rejects the argument based on intrinsic worth. Why does he reject this
argument? What effect does this have on his overall argument?
4. What is the overall tone of Krauthammer's argument? What impact does that have on
the relative effectiveness of the essay?
5. Krauthammer raises a number of horrifying possibilities in his essay, including
humans without heads, living infants being carved up into parts, and human genes
being mixed with animal genes. Does such speculation help or hurt his arguments?
6. Krauthammer directly refers to "the slippery slope," something that you have learned
is a logical fallacy. Are his slippery slope arguments legitimate? Do they help or hurt
his overall argument?

TOWARD KEY INSIGHTS

Krauthammer directly indicates that humans lack the wisdom to handle the complex power
of nature. Should scientific and technological development that holds powerful
implications beyond our wisdom be restricted?

Based on both essays of human cloning, should research in cloning be allowed for
therapeutic or reproductive purposes?

SUGGESTION FOR WRITING

Read both articles and write an essay to argue either for or against research into possible
therapeutic cloning.