

Low-Tech Research
in a High-Tech World:
How to Do Research Without the Internet and Even Without
a Word Processor

Kenneth W. Umbach, Ph.D.

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PREFACE

Eventually it may well be impossible to do a research paper (term paper, report) without the high-tech aids of computers, word processing software, browsers, and the Internet or whatever takes its place. For now, though, we are in a transition that allows old methods, new methods, or a combination of the two. This manual leans toward the old.

I developed the first edition of this manual before the Internet, before modern personal computers, and before the general availability of word processors. I did use a Commodore 64 and a word processing program that ran on it to help compose the first edition of the manual, but typed the final version of that edition on an electric typewriter. The methods outlined in the paper, though taking a nod in the direction of newer techniques at a few points, are old-fashioned. *But they work.*

I have revised the manual on a personal computer, and will post it on the Worldwide Web (WWW). This raises an interesting conundrum. How can I post a paper on low-tech research methods on today's high-tech playground, the Worldwide Web? The answer is simply that posting in online is the easiest, fastest, and currently the most effective way to make it available free, worldwide, immediately. As I am not seeking payment for the manual, and as I do want people who can use it to have it, the Web is the way to go.

Feel free to print a copy of this manual for yourself or for co-workers, fellow students, family members, or friends to whom it might be useful. All I ask is that the manual be printed or otherwise distributed in its entirety, unchanged, uncut, and including this notice.

I. INTRODUCTION

Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young. The greatest thing in life is to keep your mind young.

--Henry Ford

An idea is a feat of association.

--Robert Frost

This guide describes a simple, direct, and proven way to do secondary research, from the first steps in the library to the completed paper. It is *simple* because it focuses on the essentials, leaving extended discussions of special topics to works listed in the Further Reading section. It is *direct* and *proven* because these are hands-on, tested methods. I have used and refined this set of principles and procedures for 30 years and have presented these methods in graduate workshops for the University of Redlands/Institute for Professional Development.¹

All of the discussion that follows is important, and it all fits into a system. At least the first time through, read it in order. This method has no gimmicks, but it does include some tips to make your time more productive and to help you to be both thorough and accurate. This method will help you document your research through footnotes and bibliography, as a natural, manageable, integrated part of your research and writing. This is not the *only* method, but it is one that *works*, if *you* do. Every word in this guide reflects first-hand experience plus first-hand study of problems and successes encountered in library research.

I use the term "library research paper" or "secondary research paper" to mean any of the following:

1. A freestanding, written report of research into books, articles, and other publications on a specific topic. It presents a summary of the sources used, analysis of the overall picture shown by the sources, and the researcher's conclusions. This could be a professional paper, a report to management, a background report to a legislative committee, or a term paper.

¹This is a revised and updated version of *Self-Directed Research for Students and Professionals* (Citrus Heights, CA: OTW Communications, 1984). I wrote that as a result of my experience as "outside reader" for U of R/IPD master's degree programs in Management and Education. Over my four years in that position, I critiqued an estimated *four million words* of graduate student writing on a vast array of topics. A key part of the required thesis was a literature review. The findings of the literature review were, in turn, to be applied to the student's project, which was the subject of the thesis. I made workshop presentations to students in those programs, outlining the same principles described in this little handbook.

2. A comparable part of a larger written work, such as a thesis, management study, or policy analysis, the purpose of which is to go beyond the report of published sources to apply the research findings to some problem or issue.
3. An informal report to oneself, backed by written notes and perhaps a formal written summary and conclusions, on a topic of personal interest, such as a career or business opportunity, again based primarily on research in the library.

Depending on the needs and limits of the writer and the requirements of the topic and the intended audience, a library research paper may be supplemented by interviews, by non-library resource materials (correspondence or surveys, for example), or both. Such supplements can vastly expand the power of the research.

The mechanics of the paper--margins, formats for footnotes and bibliography entries, and so on--depend on the audience and requirements for the paper. Aside from a few incidental comments, I do not address those issues here. For a formal paper, I recommend Kate Turabian's *Manual of Style for Writer's of Term Papers, Theses, and Dissertations*, Fifth Edition (Chicago: University of Chicago Press, 1987).² If the specific audience for the paper requires a different style manual, then of course use it. If you are preparing a paper for your own use, do it any way that suits your needs, but be systematic in keeping notes of sources (and it can't hurt to follow Turabian or another standard manual anyway). You never know when you might need or want to turn that informal effort into something more formal, maybe even for publication.

Most of the following discussion focuses on the freestanding, formal research paper. All of the research and record-keeping techniques work just as well for the other types of library research paper.

To make some points in the following sections more specific, I draw examples from the California State Library, Sacramento. However, each area and each library is different. You should be able to find many resources in any metropolitan area, but you will have to learn the peculiarities of the libraries *you* use.

The rapid development of computer resources--on-line catalogs and the Internet--is creating new (but not *necessarily* better) ways of finding information.³ I do not dwell on those methods, as they *are* changing rapidly and call for a more specialized treatment. I have, however, touched briefly on some of the special problems and opportunities posed

²I generally follow Turabian, with some modifications in format for periodical article footnotes and bibliography entries.

³I have to admit that as of the spring of 1997, I find the Internet indispensable in research and personally begin my serious hunting for information online. This is not the place for a complete discussion of the methods, advantages, and disadvantages of online research. Suffice it to say that the next major revision of this handbook will take a much more extensive look at online methods. For more information about the Internet and an introduction to resources available online, see Kenneth W. Umbach, *The Internet: A California Policy Perspective* (Sacramento: California Research Bureau, 1997) and Glee Harrah Cady and Pat McGregor, *Mastering the Internet* (San Francisco: Sybex, 1996).

by computer-based catalogs and the resources available on the Internet. You should consult some of the books listed in the "Further Reading and Resources" section for more information.

II. PRINCIPLES

Reading furnishes our mind only with knowledge; it is thinking makes what we read ours.

--John Locke

To read without reflecting is like eating without digesting.

--Edmund Burke

Effective research reflects four principles: curiosity, accuracy, honesty, and originality. Those principles lie behind the method outlined in the section titled "The Method."

- **Curiosity**

To begin with, you have to *want* to find out more about your topic. If you are not curious about it, the results of your research are likely to be shallow and spiritless.

The word "curious" has the familiar meaning of inquisitive or desiring to learn more. But it was once used to mean fastidious, careful, or attentive to details. That meaning is close to the word's origin. It comes from a Latin word meaning careful or diligent, as well as curious in our present-day sense.

The combination of meanings is logical, since a genuine desire to learn more, inquisitiveness ("question-asking-ness") implies careful attention to detail.

Curiosity can be such a powerful motivation that psychologist William James even called it a *lust* for acquiring and blending new knowledge in with our own existing knowledge. He wrote of "the victorious assimilation of the new," a powerful description indeed. But James also pointed out that we cannot be curious about that which is *completely* beyond our experience. In other words, we have to go from the known to the unknown: "Only what we partly know already inspires us with a desire to know more," he wrote.⁴

If you must plunge suddenly into researching something new to you, it may be hard to work up any interest or curiosity. You have nothing, or at least nothing obvious, to connect it to. But as you find your way around the topic, your curiosity will grow naturally if you give it a chance. You can stimulate interest in an assigned subject by finding areas in your own experience connected to the new subject. As you begin to explore the new subject, open your mind to how it relates to what you already know, and then work your way out into the unknown.

⁴William James, *Principles of Psychology* (Chicago: Encyclopaedia Britannica, Inc. [The Great Books Series], 1952), pp. 524-5.

Let your research both stem from and stimulate your curiosity. (But even if you have an assignment to research a topic that bores your socks off, the methods outlined in this guide will still work for you.)

- **Accuracy**

Develop a *passion for precision*. You will save time and regrets if you take care right from the start to be accurate and complete in taking notes, listing sources, and copying passages for possible quotation or later paraphrasing in the paper.

The extra time needed to copy article listings accurately and fully, say from the *Reader's Guide to Periodical Literature*, or to note where you saw a book or article mentioned, along with the title, author, and publication data, can save you far more time later.

Librarians are often your most valuable resource, especially when you are exploring new territory. They will go to great lengths to help you find the information you are looking for, but they expect you to be accurate in your requests.

When you are writing against a deadline, you will again appreciate the care you have given to your documentation. It is hard enough to prepare a neat, professional manuscript without having to worry about a missing footnote or a citation to a nonexistent issue of a magazine.

- **Honesty**

Don't bluff about what you know. Instead, track down whatever added information you need to get the whole story. In the paper itself, list areas you haven't been able to follow up on (if relevant) and discuss the ways those areas might have affected your findings.

Honesty also implies care to quote accurately and to give proper credit to those whose words or ideas you use.

If your reader doubts your honesty--say, because you've quoted without giving credit or have ignored information contrary to your line of argument--then your reader's mind will be closed to the rest of your paper no matter how sound it may be. But if you show care in citing sources and in being fair with the ideas and information cited, then your reader can have confidence in your work.

Even if you must bend your formal findings to meet the preferences or purposes of a teacher or employer (it happens!) be honest with yourself in doing your research. At least you will know what the evidence really shows. If you are writing the paper for a client or employer, you will also be able to advise with respect to issues that should be reconsidered in the light of your research.

- **Originality**

Think about what you read. Let your research branch off in ways that intrigue you. Compare what your sources say, and look for inconsistencies, errors in logic, and unfounded assertions, as well as for evidence of careful and logical analysis. In summary, read *responsively*, commenting mentally and on paper on what you read.

If your research is part of a larger project, then think about how what you read applies to your project. What do the opinions or findings of Authors X and Y imply for *your* project? And what if your own experience leads you to different conclusions from those of Authors X and Y? Then examine why, and look further to see whether another has found the same discrepancies or can throw light on the inconsistency.

The result of this alert, responsive reading will be a new way of looking at otherwise familiar material. You will have put your own mark on the subject.

All four of these principles, curiosity, accuracy, honesty, and originality, work together and depend on one another for success.

III. THE METHOD

I rarely photocopy research materials because for me, note-taking is learning, distilling. That's the whole essence of the business. In taking notes, you have to discard what you don't need. If you [photocopy] it, you haven't chewed it.

--Barbara Tuchman

This section explains how to explore the library and how to find and keep track of information.

• Supplies

This may look like an old-fashioned method in the computer era (well, it *is* old-fashioned), but it remains simple, practical, and effective. It also has the virtue of portability, as you can work miles from the nearest computer, or even miles from the nearest electrical outlet. I have updated the method to integrate it with the (nearly indispensable!) use of a personal computer, word processing software, and printer.⁵ If you have not trolled the aisles of a good stationery store lately, let me assure you that all the items I list below are still made, even in the computer era.⁶

- File cards (index cards) and file box(es) to match. Alphabet tab dividers for the file box are helpful, too. I prefer to use 3 x 5" cards to manage the bibliography and larger ones (4 x 6" or 5 x 8") for taking notes on my reading, when I do not take notes directly on my computer. You should use what you find comfortable and convenient.
- A three-ring binder, preferably at least 1-1/2" deep (measurement across the spine), and about 10-1/2 x 11-1/2". This will hold your notes, pocket dividers, and the latest working draft of your paper.
- Lined, three-hole-punched paper, 8 x 10" or 8-1/2 x 11". The binder and paper are for taking notes on your reading. (You might prefer to use file cards for your notes. If so, you will still need notebook paper for jotting down outlines and notes that are too long for file cards.)

⁵I wrote the early drafts of the 1984 version of this paper on a Commodore-64 computer and Vic 1525 dot matrix printer (very grainy, and no "descenders" for letters like "y" that should extend below the line). I typed the final copy on an electric typewriter, and affixed some artwork embellishments by hand. I am typing this version on an MS-DOS computer (486DX-2/66--it was hot when I bought it!) using Microsoft Word for Windows, and printing on a Hewlett Packard DeskJet 540 printer. *I like this way a lot better than the earlier one.* Do not mistake my advice to use file cards and a three-ring binder for rejection of modern technology! The key is to effectively integrate old methods and new.

⁶In fact just last week, as this is written, I made two trips to my favorite office supply store, OfficeMax, to buy exactly these supplies.

- Dividers with tabs for your own labels, for the binder.
- Pocket-type dividers to fit the binder. Those go at the front of the binder, so that they do not interfere with writing on paper in the binder.
- A good pen, and a refill (or an extra pen, if not the refillable type). If you prefer to write with pencils, then by all means use them, but I recommend that you write your file cards in ink, as pencil tends to rub off.⁷

A three-hole punch is also helpful, along with a stapler, paper clips, Post-It Notes, and the usual assortment of desk accessories and supplies.

You should also have a good dictionary (such as *Webster's New World Dictionary of American English*, 3rd College Edition⁸) and whatever style manual may be required. A thesaurus is helpful also, as is an almanac (such as *Information Please* or *The World Almanac*) for projects requiring quick access to data on common subjects. Also see the "Further Reading" section below.

- **A Library**

If you have a choice, use the best you can. If you do not have a choice, use what there is. If you can, plan to use more than one. The more serious you are, the more trouble you will go to. If the research is vital to you, you'll go all out without any encouragement from me. If not, make the best use of what is convenient for you.

You will usually start at a general library--college or public. You might need to look for a special library. Check around. Businesses, organizations, and associations sometimes have special libraries, which you might be allowed to use. Policies vary. It can't hurt to ask.⁹ Some state and federal agencies have their own libraries. Your initial work at a general library will point you in the right direction if you need the depth and specificity of a special library. Ask the librarian for guidance if you need more than the general library can provide.

In Sacramento County, for example, you would have a choice of many branches of the City-County Library; the California State Library; the California State University, Sacramento, library; community college libraries; and various special libraries. The

⁷Yes, I know that these are picky little details. The fact is, though, that getting these little mechanics right makes a difference. Some people compose drafts by hand on yellow legal pads using number 2 pencils, and find no other method acceptable. Others must type (nowadays on a computer, perhaps, though some still need the clatter of a typewriter). The point is, you might as well find what you like--what resonates with you--and let its comfortable sense of familiarity work for you.

⁸N.Y.: Webster's New World (Simon and Schuster), 1988.

⁹For information on special libraries, contact the Special Libraries Association (1700 18th Street, NW, Washington, D.C. 20009; 202-234-4700).

University of California at Davis library is also nearby. Each has its strengths, weaknesses, and peculiarities.

- **Find Out What's Where**

Whatever library you use, start by taking a tour through it. Find the reference room, the card catalog, the shelves where the books are kept ("the stacks" is the term usually used for the main collection), the loan desk (where the borrower checks items out), and any special collections, such as a law section, local history collection, government publications, periodicals, pamphlet files, and so on.

Ask what the library's policies are. Can *you* check out books? Is there a fee to use the library? (You might even need a library card to get in the door in the first place.) Is there a limit on the number of items you may check out at one time? How long may you keep a borrowed book or periodical? Does the library have open shelves (that you may browse in and take books from yourself) or closed stacks (accessible only to library employees, who will retrieve--page--the books you ask for)?

Examine the reference collection. Where are the periodicals indexes? Encyclopedias? Other general reference works? Specialized reference works? Walk around and get a feel for what the library has.

Is there more than one card catalog? (This, of course, is an increasingly antiquated query in the computer age. Read on.) For example, the California State Library (CSL), which has an unusually large and complex collection, has two main card catalogs in the circulation desk area on the third floor. Although cataloging has been converted to a computer system, with terminals here and there around the library, those old card catalogs may still be very useful. One is for items received to mid-1961 (when the library ended use of the Dewey Decimal System for assigning call numbers). The other is for items received later (and assigned Library of Congress call numbers). CSL stopped adding cards to that catalog a few years ago, as cataloging was converted to the computer system, but the old drawers filled with cards remain in place. This is, I suspect, a typical pattern in large libraries that have converted to computer-based catalogs, although libraries probably will get rid of the old card catalogs to reclaim the space they use.¹⁰

CSL's government documents section has its own card catalog, but given the unusual complexity of government documents and their cataloging, it is wise to consult the Government Publications Section librarians for assistance in finding government documents. Not all are listed in the computer catalog, and not all that *are* listed in the catalog are actually on the shelf. Further, many are in microfiche format, not paper copies. The California Section, now located in the new Library and Courts II building,

¹⁰In some ways, this is not a change for the better. If the computer system is down or access reduced (as it was for a period in Sacramento County, for example, for maintenance and upgrading), then access to the catalog is limited or shut off in a way that cannot happen with file cards.

also has a card catalog, as does the Law Library, in LC I. These, too, are being replaced by the computer-based catalog.

These characteristics--multiple collections in a single library, multiple catalogs, and transition from paper to electronic media--apply in all large, complex, modern libraries. Be prepared to ask the librarians about their collections and means of cataloging.

"Card catalogs," in the old sense of drawers full of cards held in place by a metal rod, are increasingly a thing of the past. Some researchers and scholars lament their loss, as the cards themselves could convey information (wear patterns showing frequency of use, typed or hand-written notes) not available in a computer-based catalog. And, of course, the card catalog never goes "off line" as the result of a computer failure. Nonetheless, technology is changing in libraries as everywhere else in modern society, and the researcher must learn to make the best use of the new as well as the old.

- **Start with the Catalog**

You have your materials ready. You know where things are in the library and you have at least a fairly good idea of your topic. Now go to the card catalog(s) and look under every likely topic heading you can think of. Ask the librarian to show you the guide to subject headings. Use that to help you find headings. Ask the librarian for suggestions if you have difficulty finding productive headings.

The principles are the same whether you are using literal "card catalogs" or their virtual equivalent accessed by computer. Card catalogs, however, in some respects make things easier by offering "see" and "see also" cards directing you to other headings. Computer catalogs are not necessarily quite so friendly, although the California State Library's Public Access Catalog does seem to be quite useful. Whichever you are using, some time with the *Library of Congress Subject Headings* (available in larger libraries that use LCS classification) will help you find headings related to your topic.

Start with a likely heading. Work through the cards¹¹ under that heading. Branch out to related headings. Write down the title, author(s), and publication data of each item that sounds at all useful. Publication data include city of publication, publisher, and year of publication. Be sure to copy the call number as well. That is the number by which the book is filed in the library. Make a note of any cross-reference cards, those telling you to "see" or "see also" some other heading.

Looking at the number of cards in the catalog under the headings you are using will show you whether your topic is too broad, too narrow, or about right. But refining your topic will take time and investigation into the literature.

¹¹Or electronic catalog entries. From here on, "cards" should be read to include entries in any library catalog, whether in file drawers or computer memory.

It may be easiest at this point to write and work with book titles, authors' names, etc., on 8 x 11-1/2" notebook paper. Or use index cards if you prefer, to save recopying. If you are accessing an electronic catalog via your own computer, you might be able to copy the information directly into a word-processing file.

If the library has open shelves, go to the shelves and look for some of the books you want to see. At the same time, look around for others that might be helpful. Because books are organized by subject, you should find other books on the same or related topics nearby. Browse through them. Write down the title, author, publication data, and call number for each that looks useful. You can often quickly tell which ones will *not* be useful in spite of a promising title. Cross those off your list. Likewise, you might find books that *will* be helpful but that would not have seemed so by their titles.

Browsing on the shelves is helpful, but it is no substitute for combing the card catalogs. Many books might be checked out at the time you are looking. Others, because of the peculiarities of cataloging, might have call numbers that are quite different from one another. For example, books pertinent to Plato's *Republic* might fall under history, philosophy, government, literature, and even other subjects, depending on the overall purpose of the book. Books related to biotechnology are found under agriculture, business, biology, environmentalism, economics, and medicine (and probably other topics as well). In both cases, the books are far separated in the library.

Skimming through the bibliographies and footnotes of books on the shelves can also suggest books (and periodical articles--more on that later) to look for and other possible subject headings to investigate.

At this point, you are getting an overview of what is available and you are starting your working bibliography. You are also letting luck--serendipity--work for you. You are giving yourself the chance to stumble across material that might be helpful. Sometimes that way you'll find valuable resources that you might miss in the routine hunting through the card catalog. Browsing through bookstores (new and used) and current issues of magazines related to your topic can also enable you to find books and articles that you might not find through the catalogs and indexes.

If a copying machine is close, make a copy of useful-looking bibliographies in books related to your topic. Then you can study those at your convenience, and copy needed information onto your file cards more comfortably. You can punch holes in the copies and put them in your binder, or slip them into a pocket in the binder. (See "Build a File," below.)

If the library has closed stacks, you lose the advantage of browsing in the shelves, but on the other hand, the library might have lost fewer books to thieves. You might be able to get a "stack pass" giving you special permission to go to the shelves. Ask.

It is important to write down all of the basic information (the citation) for each useful or potentially useful item you find. If you have written the information, you can find the item again later at your convenience. As your list grows you can limit your topic if you are finding too many items.

In using the card catalog, notice that there are entries under title and author as well as subject. Sometimes checking the author listings under the names of authors of books you've already found can lead you to related books by the same authors. The topics might be different enough not to be listed under the same heading in the subject catalog, but still close enough to be helpful. Also look under title words. For example, if researching airline safety, look for titles beginning with "airline safety."¹² One expert has suggested imagining the ideal title of a book on the topic you are researching. Search for that title--surprisingly often you will find it, or something close.

Ask the librarians about any special cataloging arrangements in your library. Find out if there are other catalogs you should be checking.

- **Go to the Periodicals Indexes**

Find the reference room. The periodicals indexes should be there. The best known periodicals index is the *Reader's Guide to Periodical Literature*. That might well be the only periodicals index in a small public library. The *Public Affairs Information Service Bulletin* is also of general interest, and it indexes more than just periodical articles. Other indexes, such as the *Education Index* and *Index Medicus* are more specialized, and found in fewer libraries. Some index scholarly periodicals, leaving the general interest magazines to the *Reader's Guide*. Larger libraries will also have volumes of abstracts, brief summaries of scholarly publications, issued much like the periodicals indexes, but providing more information. Among these are *Pollution Abstracts*, *Psychological Abstracts*, and *Food Science and Technology Abstracts*. The periodicals abstracts and indexes are likely to be shelved in the same area of the reference room.

Read the introduction to each index and look at the list of periodicals covered by that index. That list typically appears in the front of each volume. A few minutes of investigating the periodicals indexes available in your library will show you which will be most useful.

If your topic is of general interest, then you will need the *Reader's Guide*. If it has to do with medicine or health care facilities, then *Index Medicus*, *Abstracts of Hospital Management Studies*, and other health-related indexes will be vital. Ask the librarian to

¹²A quick test found a book titled *Airline Safety is a Myth*. Subject headings listed for that book were "Aeronautics--Safety measures" and "Aeronautics--Accidents." Those, in turn, quickly could lead to more titles, and possibly to additional subject headings. The same short expedition into the CSL's On-line catalog found a U.S. Senate committee hearing on airline safety, and yet another subject heading, "Aeronautics--United States--Accidents--Human factors." Not bad for less than one minute on a subject pulled out of thin air.

show you any other indexes that might help you and to suggest what other libraries might have other indexes that would help. Take notes. You can follow up with a few phone calls to find out who has what.

Now, working from the most recent issue of each index back, look under every relevant heading and write down author, title, periodical title, and date of publication for each entry that might be helpful. Go back several years, or more if you find few entries related to your topic.¹³

You do not have to be *exhaustive* in your article hunting at this point. If you do a careful job of finding articles listed for the last several years, then you will be set to move on to the next step in the process. You are unlikely to miss anything of real importance if you then follow the rest of the method.

If your topic has to do with the federal government, then check for useful articles in *National Journal* and in the publications of Congressional Quarterly, Inc. Ask the librarian for help in finding and using those publications.

If recent issues of periodicals related to your topic are shelved where you can browse through them, do so. (Otherwise, have some recent issues paged for you.) For example, if your topic has to do with hospital management, then look at recent issues of such journals as *Hospitals* and *Health Care Management Review*. Looking through recent issues will give you even more recent information than provided by the indexes, and it might help you to come across articles you would otherwise overlook. Also skim the book review section of recent periodicals for reviews of new books related to your topic.

Look up the articles you found in the indexes. As you did with the books, do a quick review to see which ones should be crossed off your list. That will keep you from later making index cards for items you will not be using.

Because there are so many periodicals, you might have to check with several libraries to find all that you need. Persistence--together with the help of the librarian--will eventually pay off.

- **Government Publications**

Does the library have a special section for government publications? You'll need to use that section for many topics. Libraries designated as Federal Depository Libraries have thorough collections of government documents, and they have librarians with special training and expertise in using those documents. Ask for help, and be prepared to take notes.

¹³If you are studying a particular period of recent history, say the 1930s, then of course you might not want or need to look at the recent volumes of the indexes. Instead you might need to go back to the volumes for the years you are studying.

- **Computer Searches**

When I developed the first edition of this guide in 1983-84, computer literature searches were still somewhat exotic, costly, and often hit-and-miss affairs. Now, often (if not typically) a literature search will start with computer databases,¹⁴ not expand to them only after the printed indexes have been examined. If you choose to start with resources available via computer, I would still urge you to consult the published indexes pertinent to your topic.

Nonetheless, printed indexes are still very valuable tools. They, too, have benefited from the explosive growth in computer databases, as the printed indexes now are based on those databases. Ask the librarian whether the library has access to computer databases that might aid your research. If so, by all means use those databases. Likewise, use the University of California's Melvyl System®¹⁵ and any search tools to which you might have access via the Internet. Worldwide Web search engines such as Altavista, Web Crawler, Lycos, and others can be helpful, as can older style Internet search tools such as Archie and Veronica.¹⁶ They can also lead to vast amounts of ephemera, neither formally published nor reviewed by editors and publishers concerned with quality. My own view (although it is changing rapidly) is that those tools are best used *after* the researcher has made a start on the topic through printed indexes and printed books and periodicals.

- **Other Reference Materials**

Ask the reference librarian to suggest specialized reference books that might help with your topic. Whether you need facts and figures, definitions of specialized terms, biographical information, book reviews, specialized bibliographies, an overview of a broad topic, or names and addresses of people or organizations, there is a reference book to help. There are even reference books to help you choose reference books!

Also check into the "vertical file"--file drawers that hold pamphlets and other non-book items that are not convenient to place on bookshelves. Ask the librarian for help.

¹⁴I am excluding computer-based library catalogs that simply supplant the old card catalogs. If the library has converted to a computer-based catalog for its collection, that is what you will have to use. Nonetheless, if the old card catalog is still available, it might well repay some examination because it expands your chances to stumble across useful materials.

¹⁵This is the vast on-line catalog of the University of California libraries, accessible via Internet. It also encompasses the collections within the California State Library.

¹⁶I cannot do justice to these tools in the short space of this guide, and highly recommend that you consult a good, current overview of Internet, Worldwide Web, and the tools and resources available on the net (such as the Cady and McGregor volume cited previously). In brief, however, Archie is a program that searches for words you specify in directories accessible on the Internet; Veronica searches similarly, but for words in file names; Altavista, Web Crawler, and Lycos are among the tools available for searching the Worldwide Web portion of the Internet for "web pages" that include the terms you specify. This is a rapidly changing field. You will do well to browse the computer aisles of a good bookstore and to study recent issues of Internet-oriented magazines. Better yet, experiment with what is available on line if you have Internet access. If you do, you might wish to start with my own home page, <http://www.unlimited.net/~kumbach>.

- **Organize your Bibliography**

This step may seem time-consuming, but do not skip it. The time and effort it costs you at this time will be saved many times over later, when time will be especially precious if you are under a deadline. *List each item--book or article--on a separate index card, by author's last name.*¹⁷ For example:

Culbert, Samuel A.
The Organization Trap and How to Get Out of It
New York: Basic Books, 1974
HF 5549.5 J63 C84

Follow the requirements of whatever style manual you are using. There are special requirements for magazine articles, books, articles in edited collections, encyclopedia articles, government documents, and so on. Worse, *footnote* form is a little different from *bibliographic entry* form.¹⁸ Worse yet, the periodicals indexes use abbreviations, do not capitalize titles, and so on, which might not conform to the style manual you are using. It can all seem very complicated at first, but finding and using the right forms becomes easier with practice.

Do not crowd the card. You might want to add comments on some of the cards later. Include the call number on the file card, so that you won't have to look it up again. List the author's whole name, the entire title, including subtitle, if any, and the publication data that would be needed for a footnote or bibliography entry.

Keep your file cards together in a file box or expansion-type card file. Organize them alphabetically by author. Put the cards for items you want to look for first in a separate

¹⁷There is an alternative approach. You can, if it works better for you, keep your bibliography in a word-processing file. What works best really depends on your own circumstances. When I have to be thoroughly organized, I still do well to use file cards, even though I write the paper in Microsoft Word from the first rough outline to the finished product. You can always print out a copy of the bibliography in a narrow-column format, and cut and paste the entries onto cards to save some writing. Experiment to find out what works best for you. (And remember that a hard disk crash will not wipe out your file cards.)

¹⁸I tend to harp on footnotes. That, I suppose, is a holdover from many years of formal education and years of writing formal reports since. The *principle* is that research should be documented. However, there are different ways of documenting sources. *The New York Public Library Writer's Guide to Style and Usage* has this to say: "Except in scholarly publications, footnotes are used less frequently than they once were, mainly because they interrupt the flow of text and complicate the production process. In most books, articles, and reports, writers should try to incorporate footnote information into the text." (P. 551.) The *Guide* offers ideas on "Minimal Documentation for the Casual Reader," "Moderate Documentation for the Educated Reader," and "Complete Documentation for the Professional Reader" (pp. 492ff.). Especially note the section headed "Where Have All the Footnotes Gone," pp. 493-4. Consider your audience when you write and format your paper, and choose a method that suits the audience's needs and the degree of formality of the paper, and then follow it consistently in the paper. Whatever format you choose for the paper itself, *be meticulous in your own notes of sources!* Believe me, you will never find yourself saying, "Gee, I wish I had been less careful when I took notes . . ."

group in front of the rest. That will help you to organize your priorities. Always carry some blank cards with the completed ones, so you can add cards easily at any time.

Now you have a pack of cards representing your initial bibliography. That is a milestone.

- **Read and Take Notes**

Begin with any of the promising books or articles. Turn to the bibliography of the first item and make a file card for each item listed that looks useful and that you do not already have a card for. Go through the book's or article's footnotes for the same purpose--make a card for each useful-sounding new item. (It is important to check both bibliography and footnotes because sources may be shown in one and not in the other.) After a while, you will find fewer and fewer new (to you) items. The same books and articles will be cited again and again. Then you can start to feel sure that you have covered the published resources thoroughly.

But of course do not stop with just making more bibliography cards. Take one item at a time, a book or an article, and go through it to find chapters or sections that have a special bearing on your topic. Some items will be entirely related to our topic, but many will have only a chapter or two, or even only a page or so, that can really be helpful to you.

Write the author's name and the book or article title at the top of a notebook page (or a large file card if you prefer to use those for note-taking), or put it at the top of a new page in your working file on the computer. Summarize the relevant parts of the book or article *in your own words*. If you are taking notes on notebook paper, write on only one side of the paper. As your summary goes over to a new page, write the author's name and the book or article title (shortened form, if desired) at the top of that page. Make notes of the page(s) on which various points are found in the source you are summarizing.

Keep a list of new words you come across as you do your reading. Especially as you go into a new subject, you have to get your bearings by learning the specialized vocabulary of that subject. Look up definitions and make notes on the new words.

If you find a passage that is outstanding, perhaps a sentence or two precisely summarizing the writer's main idea or clearly illustrating an important point, then write it down *in quotation marks or in block form* (indented and single spaced). Make it clear in your notes that what you are quoting *is* quoted, and note the exact page or pages on which the passage is found. If the quoted passage is at the end of one page and the beginning of another, then mark the spot where the first page ends. You'll need that information when you write your paper if you decide to use only a part of the quoted passage. You will know exactly where it came from without having to look it up again. Details like accurate citations *are* important.

Double check and triple check to be sure that you have quoted *exactly*. If you add anything within a quoted passage, then show it in square brackets [like those around this

phrase]. Not parentheses (). *Brackets*. Show omissions with ellipsis dots, three spaced periods. For example, using the previous sentence as an example: "*Show omissions with . . . three spaced periods.*" If the omission comes at the end of a sentence, you need a fourth period, the one at the end of the sentence. For example: "*If the omission comes at the end of the sentence, you need a fourth period . . .*"¹⁹ I know, picky picky picky. That pickiness is also known as professionalism.

Follow interesting trails, but keep your notes, clearly labeled and accurate, together in your notebook. (Even if you take your notes on the computer, print them out, three-hole punch the pages, and insert them into your notebook. This facilitates reviewing the material away from the computer and serves as a backup for the disk file.) You are building a summary of your reading and a file of quotations for possible use in the paper.

The section below on plagiarism will help you see why I stress certain points above.

Finding copies of books and articles is not always easy. You might have to go to another library, or even stalk the corridors or bookstores, to find some items. A phone call to another library can help you find a needed book or periodical. The librarian at your library can also help you track down needed items, and perhaps even to borrow them through interlibrary loan. Along with your notes of title, author, and so on, make notes of which library has each item.

- **Build a File**

To this point, you have a bibliography and have started reading and taking notes on the sources you have found. You will keep adding new items to your bibliography file cards as you find new books or articles mentioned. You will keep writing summaries of the books and articles (or relevant parts) in your notebook.

You should now use some of the dividers to help organize your work and your findings. Label one section *To Do*. In that section, make a note of each thing you have to do as it comes to mind. That running list will help you set priorities.

Label another section *Bibliography*. In that one, keep track of sources not yet written on your file cards and of any ideas on what to use in your final bibliography, and so on.

Label another section *Resources*. In that one, make notes of where you can find specialized information or where you can find a particular reference book, index, or the like. You might also add notes about people or organizations that could provide specialized information. Some of your notes in that section might overlap those in your To Do section.

¹⁹See Turabian, sections 5.18-5.29 or *Chicago Manual of Style*, 14th Ed., sections 10.48-10.63 for details.

Other sections will depend on your topic and on sub-topics as they suggest themselves. For example, if your paper is on setting up a management by objectives (MBO) system in a small business, you might have a section on MBO, one on management of small firms, one on organizational development, and so on. Use these sections to keep track of information and ideas subject-by-subject. That sort of organization of your material can begin to take the place of the article-by-article, book-by-book note-taking with which you started.

Use the pocket dividers in your notebook to hold loose items--brochures, fact sheets, and newspaper clippings, for example--that you collect during your research.

As you write ideas and information summarize in your own words and elaborate on the ideas of your sources in your own words. Here again, when you quote, do so exactly, and make plain what is quoted and what is not. Write down the exact citation.

Transfer your notes from the item-by-item summary section to the subject-based section, either by moving whole pages or by cutting needed sections and taping them to new sheets to be rearranged as needed. Of course, if you are keeping your notes in a word-processing file, you will be moving text around in the file, but the principles are the same. The point here is a set of principles and procedures. Adjust the mechanics to suit your particular needs and work preferences. Be sure to keep citations (author, title, page number(s)) together with material as you move it around. Repeat that information wherever necessary, as you cut and paste (literally or figuratively).

In this way, as your reading and note-taking progress, your paper is also taking shape, complete with summaries, ideas and related discussions, quotations, and citations. You are building the framework of your paper and filling it in at the same time. This will give you a head start in writing your first draft.

In all of this, *do not throw anything away*. Until your paper has been completed, save all of your notes. Put the older version of rewritten material, along with material to be left out for whatever reason, in a separate file, and keep it all for now. Sometimes a discarded reference, quotation, or idea suddenly can fill a need. If you have kept all of your notes, you can find the material again quickly by sifting through the discard file.

Even after you have finished your paper, bundle up your notes and a copy of the paper (*always make a copy of your paper!*), label the file, and put it away for future reference. You might need to document your paper more fully, or even years later you might want to pick up the subject where you left off and continue with it.

IV. KEYS TO WRITING A RESEARCH PAPER

Abstract ideas are the patterns two or more memories have in common. They are born whenever someone realizes that similarity Creative thinking may mean simply the realization that there's no particular virtue in doing things the way they always have been done.

--Rudolph Flesch

It is the function of creative men to perceive the relations between thoughts, or things, or forms of expression that may seem utterly different, and to be able to combine them into some new forms--the power to connect the seemingly unconnected.

--William Plomer

You have four key tasks in writing a library research paper. They are to:

- Organize (put things in order)
- Summarize (outline the main points)
- Analyze (take ideas apart)
- Synthesize (put it all together)

A fifth task, needed when the library research is part of a larger project (a thesis, for example), is to:

- Apply (put your findings to work)

Understanding these tasks will help you to use the research method described in this guide.

- **Organize**

Bring order to your topic. Lay out your material according to reasonable questions, issues, or subtopics. If your research is part of a thesis or some other larger paper, narrow the topics you cover in the literature to a manageable scope and show how they fit into the overall paper.

Use an outline both to guide your writing and to check on the orderliness of what you've written. Rearrange your outline to suit yourself and to make sense of your material, but *work from at least a rough outline as soon as you start your actual writing*. If you cannot do an outline of the paper, then the paper is not clearly organized.

Don't try to limit your *research* the way you'll have to limit your *written report* of that research. Your research might well wander off in several directions. The note-taking and filing system described above will help you to keep your information organized. Looking for odd connections and following up on leads that at first seem unrelated can be part of the reward of research, leading to the "Aha!" phenomenon of sudden insight. *But you will have to discipline all of that material, and even leave much of it out in the final write-up.* *Comprehensiveness* is a virtue in encyclopedias and dictionaries, but a research paper must focus on something *comprehensible*. One of your tasks, both as you search for sources of information and as you shape your paper, is to focus on a single central topic. You should be able to reduce that topic to specific questions or subtopics, around which to organize the paper.

- **Summarize**

Present the essential points on each topic or each important book or article. Communicate the most important facts, findings, and interpretations. Remember that much of your reading will not show up directly in your paper. Expect to do much more reading than you can report on in the paper itself. A key skill in writing is knowing what to leave out!

The way you summarize your reading will depend on what kind of subject you have had on how you approach it. You will not usually just summarize right through the material item-by-item.

- **Analyze**

Dissect what you have read and learned. Compare and contrast what others have written. Look for flaws and strengths in their reasoning and evidence. Look for the limitations of their research designs or information. Analysis means breaking into logical parts, closely examining a book or article idea-by-idea, point-by-point. You must analyze before you can synthesize.

- **Synthesize**

Put it all together again. How do the ideas you have examined relate to one another? Can you find a new, unified view that brings together all of what you have learned about your topic? And if your library research is part of a larger project or thesis, how does this new, unified view affect the overall project?

Synthesis is the creation of a new whole out of parts. It is the most creative part of your library research paper. Synthesis is also one of the most demanding kinds of work, but it is another step expressing your originality.

- **Apply**

If your paper is part of a larger project, put your findings to work. How does what you have learned affect your project? Do you have to rethink even the basic purpose or design of your project because of what you have learned from what you have read?

V. NON-LIBRARY RESEARCH SUPPLEMENTS

Everybody is ignorant, only on different subjects.
--Will Rogers

Supplementing your library research with interviews and correspondence can add power and originality to your work. Information gathered through interviews and through direct requests should, of course, be documented as carefully as that gathered from books and periodicals. Keep as careful notes of interviews and other such sources as you do of your reading.

- **Interviews**

If there is someone who can provide the information you need, you have nothing to lose by asking for an interview. But if you get the interview, *be prepared* with a list of questions and with enough background to follow up on the answers. Do not appear to be taking down every word, especially toward the end of the interview. At that point, put down your notebook²⁰ and let your subject (the person being interviewed) relax and talk more informally. Listen carefully. Then, as soon as you are out of sight write down everything you can remember. If any information is given "off the record" (that is, not to be repeated), or "not for attribution" (that is, do not quote by name or otherwise identify the source), *honor the conditions*. If you are in doubt, ask your subject what you may quote. If necessary, you might be able to interview someone else who will be willing to give you the same information on the record or for attribution.

Before closing the interview, ask the subject to suggest other people who could provide useful information. And do the same with any of *those* people you interview. In that way your network of sources fans out as did your bibliography. Each interview prepares you better for the next interview because you will have more information.

- **Correspondence**

The role and nature of correspondence is changing, now that so many individuals and organizations may be reached via electronic mail. The advent of electronic mailing lists, discussion groups (Usenet groups), and bulletin boards has broadened what might be called "correspondence." The quality of what one might find on bulletin boards and discussion groups varies. Bulletin boards and Usenet groups may be best approached as sources of ideas and of leads to individuals or organizations that may provide reliable and documented information. For more information on what is available on the Internet, see

²⁰I advise that you use a notebook, not a tape recorder. For an excellent, brief discussion of the argument over tape recorders vs. notebooks, see David Fryxell, *How to Write Fast (While Writing Well)* (Cincinnati, Ohio: Writer's Digest Books, 1992), Chapter Six. If there is no other reason, there is this: the batteries will not die in your pencil and notebook. If you *must* carry a tape recorder, use it *after* the interview, out of sight, to dictate additional notes on the interview.

the appropriate sources in the Further Reading section below, or examine what is available in a good bookstore, as this is such a rapidly growing area.

If you need information not available in the library, you might be able to get it by writing to a person or organization and asking for help. The reference librarian can help you find names and addresses of possible sources for the information you need. Many reference books, including directories of corporations, government agencies, and associations, can help you find where to ask for what you need. Government agencies, public relations departments of large organizations, and businesses can provide information, often at no charge.

Be specific in your requests. Say what you need the information for. This will help the people you speak with decide what might be of assistance. Ask where else to check. The person answering your request might be able to direct you to other sources of information that you had not even thought of. If contacting an organization, ask for a copy of its publications list, if it has one.

Be considerate in your requests, and try not to be burdensome. Most people enjoy another's interest in their work and they willingly share what information they can if asked in a considerate way.

VI. WRITING THE PAPER

It is the little writer rather than the great writer who seems never to quote, and the reason is that he is never really doing anything else.

--Havelock Ellis

Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.

--Samuel Johnson

By the time you have worked through your bibliography, taking notes as outlined above, you will have a good picture of the subject and of some logical subdivisions of it. You will have built a file that you can shape into the paper itself. Now you are ready to write your first draft. In writing the paper, remember your main tasks of organizing, summarizing, analyzing, synthesizing, and applying.

The most important thing to remember about the first draft is that you must write one. And it will probably be lousy. That is the nature of first drafts. But once you have written it, you can edit, revise, add to where needed, reorganize, clarify, and otherwise clean up and refine to your heart's content. Just slog through, following any reasonable outline: introduction; Topic A (broken into subtopics); Topic B (broken into subtopics); and so on; summary and conclusions; areas for further research; bibliography.

A lousy first draft is *still* a first draft. It marks another milestone. Do not worry about making the first draft perfect, or even nearly perfect. The purpose of *revision* is to perfect the job. If you are working toward a deadline, allow plenty of extra time for revising, and for revising again, and for revising yet again. In your revising you can fill in weak areas, cut out redundancies, clarify vague passages, put specifics in place of generalities, and make all of the other touches that result in strong, clear writing.

Study William Zinsser's *On Writing Well*. Part I is a superb guide to clear, effective writing. It might be the best ever written. Read it several times and think about it. It will make you sensitive to what to watch for as you revise your paper. Likewise study Strunk and White's *The Elements of Style*, which Zinsser calls "The best book on writing that I know."

As you write your first draft, include your complete footnotes.²¹ If you are using full-featured word processing software, then it is easy to include the notes as you write (unlike

²¹Of course, not every paper requires footnotes (or endnotes, if you prefer that style). If you are synthesizing much material, then you might need only a bibliography or "suggested reading" section, as there is no need to tie your paper point-by-point to specific sources. The sort of paper I am describing here, though, typically must cite sources for at least occasional quoted passages and for specific information from specific sources. Typically, also, such a paper would occasionally direct the reader to a specific source of more information on a topic. This sort of note would take the form "See Edgar Jones,

the days of tedious measurements and adjustments with a typewriter). I advise against using "ibid." or "op. cit." to refer to works already cited. Use an abbreviated form (for example, "Felkner, *How to Look*"). That way, if you move material around in the paper, you *will not lose track of what you were citing where*. By doing your footnotes as you go, you save yourself completely from having to hunt for sources of quotations and information when you do the final draft. Everything you need will be there already.

You can do your bibliography easily by alphabetizing (by author) the file cards for the items you have used in the paper (omit those you ended up not using) and then typing out the entries in alphabetical order by author. Of course this process is much simpler now, with the aid of word processing software, than it was only a few years ago.

Some tips on writing and revising and some examples are covered below.

- **"Clear Thinking Becomes Clear Writing"**

William Zinsser's phrase elegantly summarizes this fact: you must *know* your topic in order to write clearly and productively about it. Do not settle for a quick, superficial grasp of your topic, because if you do you will stumble when trying to *write* about it.

The point of the procedures outlined in this guide is to give you a broad, deep background in your topic before you write your paper. The system encourages you to explore in depth and to think about your reading before you write.

To test your understanding, try to explain your topic to a friend or colleague orally. If you can *talk* clearly about the subject, you should be able to *write* clearly about it. If you are stumped when talking, then you need a better understanding before you write.

- **Quotations**

Quote to illustrate and to illuminate. Quote when another writer has put something uniquely or unusually well, when you cannot put the idea better in your own word. But do not overuse quotations.

Note the difference between the primary and secondary source of a quotation. The primary source is the original source--where the passage came from originally. A secondary source is another publication in which the quotation appeared. For example, Will Durant, in *The Life of Greece*, quotes Aristophanes' play *Clouds*. Durant's book is the secondary source for the quotation from the play by Aristophanes, which is the primary source.

If you use a quotation from a secondary source, the citation must show both the primary and secondary sources. For example:

International Relations in the 1990s, Chapter 3, for a detailed discussion of the role of the embassy and the consulate."

Education is not completed with college. Rather, education is a continuing part of life, as argued by S.J. Oleon:

As viewed from the world of business, what was studied in college is yesterday's knowledge. But what will be needed for a future business career is tomorrow's knowledge . . . no matter how much education one has, it is not enough. It will not last a lifetime; it will soon be obsolete. Unless one devotes time and energy to continue his education, he will become an educational dropout. Don't let it happen to you.¹

¹S.J. Oleon, "Changing Patterns in Continuing Education for Business," Center for the Study of Liberal Education for Adults, Boston University, 1967, p. 6. Quoted in H.G. Kaufman, *Obsolescence and Professional Career Development* (N.Y.: AMACOM, 1974), p. 133.

Oleon's article is the primary source. Kaufman's book is the secondary source. Because the writer found the quotation in Kaufman's book, he must cite both sources, using the information in Kaufman's footnote to the quotation.

When you can, look up the primary source and quote it directly. You might even find a better passage or find that the passage was quoted incorrectly or used out of its proper context by the author of the secondary source.

It is usually best to quote at least a full sentence. For less than a sentence, it may be better to rephrase the idea in your own words. If you use partial-sentence quotations, work them into your own sentences in a smooth and grammatically correct fashion. For example, one might advise readers to heed Kaufman's advice that "education is a continuing part of life," for as a lifelong endeavor it "is not completed with college." This is scarcely the most elegant of examples, but it shows the principle.²²

When you do quote, properly identify the material *as* quoted. Use quotation marks, or use block form--indentation and single spacing--for longer passages, and cite the source. Set off anything that you insert in a quoted passage in [brackets], not in (parentheses).

- **Revision**

Revise and clarify your writing until you have said what you mean as simply and directly as possible. Watch out for careless phrasing and unneeded words.

Consider a few examples from master's theses:

²²For a better example, see section 10.12 of *The Chicago Manual of Style*, 14th Edition. Better yet, see that manual's entire section on quotations.

"Occupational alcoholism programs began to take a gradual foothold forty years ago when several organizations . . . became aware of the magnitude and seriousness of employees with drinking problems." (*Just how large and serious were those employees?* Perhaps the writer meant "the frequency and seriousness of problem drinking among employees.")

"The manager is one key to the success of this problem." (Wouldn't it be better if the manager were the key to the *solution*?)

"The responsibility for dealing with an employee with a productivity problem that may be related to alcoholism is the responsibility of that employee's manager." (The sentence is wordy and circular, and the point is unclear. For example, what does the writer mean by "dealing with"? The sentence might mean, "The supervisor must counsel the employee whose productivity is damaged by alcoholism.")

"The adult learner who enrolls in a class such as welding is in a position to utilize both physical and mental capabilities. The nature of such a class incorporates both physical and mental abilities. A class of that type both develops manual dexterity and mental abilities." (Instead try, "The student of welding uses both hands and mind. He develops both manual dexterity and knowledge of metallurgy.")

Read Zinsser's *On Writing Well* for an elegant introduction to clear, effective writing. Trust me on this.

- **A Note about Plagiarism**

Plagiarism is the use of another person's words or treatment of ideas without giving credit. Plagiarism is a type of theft, and it is a serious violation of academic ethics. It may also result in serious penalties. Plagiarism includes:

1. Using another writer's words as though they were one's own.
2. Using another writer's arrangement of ideas, organization of material, or set of ideas or topics as though it were one's own.

Mere rearranging of phrases or minor paraphrasing is not enough to avoid plagiarism. Nor is citing the source while failing to put quoted matter in quotation marks (or block indentation form).

There is nothing wrong with using another writer's words or arrangement of ideas *as long as proper credit is given to the original author* (and within limits of "fair use," which restricts quotation of copyrighted matter). Proper credit includes the use of quotation

marks or block form (indentation and single spacing) for quoted material. It also includes citing the source of the information even when the author is not being quoted directly.²³

Do not just change a word or two or make other such minor changes and try to claim the material as your own work or as your summary or discussion of the ideas of the author. As Booth, Colomb, and Williams point out, "You also plagiarize when you use words so close to those in your source, that if your work were placed next to the source, it would be obvious that you could not have written what you did without the source at your elbow."²⁴

When you use the ideas of another author, give credit--cite the source. When you use a set of categories or an analytical scheme developed by someone else, give credit--cite the source.

For publication, you must also obtain the permission of the copyright holder to use copyrighted material in excess of short passages covered under "fair use" rules.

For a more complete discussion of plagiarism, I recommend the section titled "The Pitfall to Avoid at All Costs," in Booth, Colomb, and Williams's *The Craft of Research*.²⁵

²³Information that is general knowledge (dates of presidential administrations, that men first set foot on the moon in 1969, and so on) does not require a source citation.

²⁴Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, *The Craft of Research* (Chicago: University of Chicago Press, 1995), p. 167.

²⁵See *The Craft of Research*, pp. 166-70, or Joseph Gibaldi and Walter S. Achtert, *MLA Handbook for Writers of Research Papers*, Third Edition (N.Y.: Modern Language Association, 1988), §1.6.

VII. CONCLUSION

This guide has described how to focus a library-based research project, how to go about doing research and keeping systematic files, and how to write a report of the results. Its purpose has been to show you both *principles* and *procedures* for self-directed, library-based research. Putting the results of your research is up to you, but remember that knowledge is power only if put into action.

Remember also throughout your research and writing that what you write is successful *only to the extent that your intended audience reads and understands it*. This is such an important point that I am going to put it in boldface and repeat it:

What you write is successful only to the extent that your intended audience reads and understands it.

That means that you must write at a level appropriate to the audience, provide sufficient (but not excessive) background and context for the reader, organize your material clearly, omit unnecessary detail, and never leave the reader wondering why you have included something. Do not put data in just because it is available. The data must *contribute* to the paper.

If you absolutely feel you *must* include something that is peripheral to the central argument and organization of the paper, at least put it in an appendix so that it does not stop the reader's progress. When finished, you should be able to abstract the essential purpose of your paper down to what will fit on a single index card (a small one at that). That is, *the central theme should be clear enough to express in a paragraph*. So much the better if you can define it that clearly and concisely at the start (and it is not a bad idea to try), but that is rarely possible when you are exploring something new.

The supplements below recommend further reading and resources and provide some guidance on footnote and bibliography form.

FURTHER READING AND RESOURCES

- Bates, Jefferson D. *Writing with Precision: How to Write So That You Cannot Possibly Be Misunderstood*. Washington, D.C.: Acropolis Books, 1978. The title says it all.
- Berkman, Robert I. *Find it Fast: How to Uncover Expert Information on Any Subject*. N.Y.: HarperPerennial, 1994.
- Bernstein, Theodore M. *The Careful Writer: A Modern Guide to English Usage*. N.Y.: Atheneum, 1977. Alphabetically organized discussions of many points of style and usage.
- Booth, Wayne C., Gregory G. Colomb, and Joseph M, Williams. *The Craft of Research*. Chicago: University of Chicago Press, 1995. This is a complete overview of the research and writing process. It is directed to the beginner, but has much of interest to those with more experience.
- Cady, Glee Harrah, and Pat McGregor. *Mastering the Internet*, Second Edition. San Francisco: Sybex, 1996. A massive volume (computer and Internet books tend to be like that), complete with CD-ROM disk of Internet-access software and tools. Aside from its broad coverage of the Internet and related technology, one of the volume's strengths is its treatment of K-12 education and the Internet (two chapters and an appendix).
- Felknor, Bruce L. *How to Look Things Up and Find Things Out*. N.Y.: Quill/William Morrow, 1988. The foreword begins, "This is a book of secrets: the secrets of making reference publications work for you."
- Fryxell, David. *How To Write Fast (While Writing Well)*. Cincinnati, Ohio: Writer's Digest Books, 1992. Written with an eye toward freelance writers, this book covers many topics, including interviewing, research, and editing.
- Gross, Ronald. *The Independent Scholar's Handbook: How to Turn Your Interest in Any Subject into Expertise*. Reading, Massachusetts: Addison-Wesley, 1982. Gross is also the author of *The Lifelong Learner*. Highly recommended.
- Hahn, Harley, and Rick Stout. *The Internet Yellow Pages*. Berkeley, CA: Osborne McGraw-Hill. This book, and similar ones, are updated frequently in new editions. The 1996 edition was on bookstore shelves when I last looked, in January 1996.
- Lakein, Alan. *How to Get Control of Your Time and Your Life*. N.Y.: New American Library, 1974. An expert's guide to finding your priorities and organizing and using your time. Lakein is not just an "efficiency expert," he is an *effectiveness* expert.

New York Public Library Writer's Guide to Style and Usage. N.Y.: HarperCollins, 1994.

This is a very convenient reference to have at hand, encompassing style and usage as well as formatting, production, and printing. It includes a long section on misused and easily confused words, a thorough review of grammar, and even a section on sexist usage.

Nuwer, Hank. *How to Write Like an Expert About Anything*. Cincinnati, Ohio: Writer's Digest Press, 1995. Like all Writer's Digest Press books, this one is aimed at freelance writers, but has much of interest to anyone who writes seriously.

Roget's International Thesaurus. N.Y.: Crowell. Any edition will be valuable when you are searching for the right word or phrase. Use a thesaurus to help you find the available choices, and use a dictionary to find the exact shade of meaning of each.

Ross-Larsen, Bruce. *Edit Yourself: A Manual for Everyone Who Works with Words*. N.Y.: W.W. Norton & Co., 1982. A guide to editing and revising for clarity and effectiveness.

Strunk, William, Jr., and E. B. White. *The Elements of Style*, 3rd Edition. N.Y.: Macmillan, 1979. This is as close to a classic on writing as one will find in the English language.

Turabian, Kate. *A Manual for Writers of Term Papers, Theses, and Dissertations*, Fifth Edition. Chicago: University of Chicago Press, 1987. (A sixth edition, like every edition enlarged over the previous one, was published in 1996.)

Umbach, Kenneth W. *The Internet: A California Policy Perspective*. Sacramento: California Research Bureau, 1997. Includes an explanation of the Internet, some information on hyperlinking through the Worldwide Web (WWW), and an appendix listing useful Web sites on a variety of topics.

University of Chicago Press. *The Chicago Manual of Style*, 14th Edition. Chicago: University of Chicago Press, 1993. This is an exhaustive and highly regarded style manual, consistent with Turabian, but including much more material.

Whiteley, Sandy, Ed. *American Library Association Guide to Information Access*. N.Y.: Random House, 1994. The cover blurb summarizes: "Selects more than 3,000 of the best standard and electronic sources in the 36 most-researched subject categories, tells where to find them, and explains the latest research methods." Well worth a look.

Zinsser, William. *On Writing Well*, Fourth Edition. N.Y.: Harper and Row, 1990 (or Fifth Edition, 1994). Each edition since the first (1976) has grown with the addition of more topics, such as the use of word processors in writing. Focus on

Part I, which is a superb introduction to clear, effective writing. The chapter on "Unity" in Part II (moved to Part I in the fifth edition) is also especially valuable, as is the material on the lead and the ending (in two chapters in the fourth edition, and combined into one in the fifth).

SOME FOOTNOTING AND BIBLIOGRAPHY TIPS

The principles behind footnotes and bibliography entries are simple. In both cases, you need to answer the questions of who? where? and when? Footnotes usually are a bit more specific than bibliography entries because the footnote specifies the exact page(s) on which you found the passage you have quoted or information you have used. The corresponding bibliography entry would cite the book or article, but not a specific page or pages within it.

A standard general form for a footnote citing a book is:

Author's name--first name first, *book title* (city of publication: publisher, year of publication), page(s) referred to.

Or, for a periodical article:

Author's name--first name first, *periodical title*, issue date (volume number, issue number), page(s) referred to.

The corresponding bibliography entry will show the author's last name first, and will not cite the specific page(s) shown in the footnote. (It may include the pages on which the article appeared in a magazine or edited collection.) Note that book and periodical (magazine, newspaper, and so on) titles are put in *italics* (if available) or underlined if italics are not available.

The point of these requirements is to enable anyone who is reading your report to find your exact source for information quoted or otherwise cited and to find the books and other sources you have used in researching your paper. To be able to find each item, your reader must have exact and complete information.

Acceptable styles for documentation vary widely. Some virtually omit the customary "footnote" in favor of an abbreviated parenthetical reference to an item in the bibliography. You will probably see several styles of footnoting in your library research. Observe the differences and similarities.

Following are a few sample footnote (F) and bibliography (B) entries. The examples illustrate formats for a book, a periodical article, and an article in an edited book, plus the edited book itself.

BOOK:

F: Ivar Berg, *Education and Jobs: The Great Training Robbery* (N.Y.: Praeger, 1974), p. 54.

B: Berg, Ivar. *Education and Jobs: The Great Training Robbery*. N.Y.: Praeger, 1974.

PERIODICAL ARTICLE:

F: William A. Orme, Jr., "NAFTA: Myths versus Facts," *Foreign Affairs*, November/December 1993 (Vol. 72, No. 5), p. 11.

B: Orme, William A., Jr. "NAFTA: Myths versus Facts," *Foreign Affairs* November/December 1993 (Vol. 72, No. 5), p. 11

ARTICLE IN EDITED VOLUME:

F: Lois Duncan, "That All-Important Rewrite," in *The Writer's Handbook*, ed. A.S. Burack (Boston: The Writer, Inc., 1976), p. 153.

B: Duncan, Lois. "That All-Important Rewrite." In *The Writer's Handbook*, ed. A.S. Burack, pp. 151-55. Boston: The Writer, Inc., 1976.

EDITED VOLUME:

B: Burack, A.S., ed. *The Writer's Handbook*. Boston: The Writer, Inc., 1976.

WORLDWIDE WEB DOCUMENTS AND OTHER ONLINE DOCUMENTS

There is no general agreement on how to handle these. My recommendation is to cite author, title, organization (if relevant), date, and URL (uniform resource locator) or other applicable source information.

For example, a draft of the first chapter of my paper about the Internet is posted online. It might be cited as:

Kenneth W. Umbach, "What is the Internet," Chapter 1 of *The Internet: A California Policy Perspective*, draft dated December 31, 1996, posted at <http://www.unlimited.net/~kumbach/whatsnet.html>.

Note: do not insert a hyphen to break an URL at end of line. Use a space instead to break the line. By now folks should know that the URL is one continuous line, even if it is broken for typographical reasons.

Newspaper and periodical articles found online should be duly noted as being from an online source.