Path 5:
Technical Writing

We live in an increasingly technological age. Technology changes the
speed at which we communicate, the devices we use to communicate,
and even the language we employ to express ourselves. Cell phones, pagers,
answering machines, fax machines, word processors, videophones, and
portable computers have all dramatically altered the movement of words,
ideas, and images. Not only is there more information to deal with each day,
but we may also need help both to acquire the information we need and to
interpret the information we have.

Most of us see only the commercial and consumer-oriented products of
this technological revolution. But there is an industrial revolution of even
greater magnitude going on as well: one state is exploring the use of “smart”
levees wired with control systems of electronic sensors. They sound alarms
if a weakening levee threatens to breach, giving crews time to make emer-
gency repairs; firms providing the latest in biometric security, using systems
that can identify an individual’s face, hand, or fingerprint, are enjoying a
boom amid an increase in forgery and cybercrime. Systems like these need
to be managed just as any human workforce does.

In addition to our own active participation in this revolution, we rely on
words, both written and spoken, to explain the world to us. But what hap-
pens when the world becomes so complicated that words aren’t sufficient to
help us understand or the words themselves are almost like a foreign language?

We need a new kind of interpreter, someone who can take the complex
and make it digestible for those of us without a technical background. We
need an intermediary between this increasingly technocratic world and our
own lives. But we also need people who can communicate in these new tech-
nical languages, people who write, speak, and communicate with each other
in dialects of their own devising to continue producing the products, services, and enhancements of life that come with technology. These are technical writers.

**Definition of the Career Path**

The term technical writing is subject to various interpretations. Anyone close to the field will have his or her own favorite definition of the job and its duties. Two interpretations seem to be among the most prevalent. One states that technical writers are responsible for taking material that is difficult for the layperson to understand and rewriting it in a more comprehensible form and style. This may involve writing manuals, directions, installation guides, repair instructions, books, film scripts, training programs, or any number of factual pieces. There is even some commercial work for technical writers in advertising, press relations, and industrial sales. Technical writers use a potent combination of strong writing skills and grounding in at least one technical field, for example, computer science, engineering, medicine, or aerospace.

The other common definition states that technical writers are responsible for writing technical material for others who are versed in this material to read. The medical technical writer might take the results of a number of studies and write a review of the material comparing the studies. The computer science technical writer might help prepare a paper for delivery at a major software conference. The engineering technical writer might produce a document reviewing stress and fatigue studies on a particular kind of steel I beam. Both definitions express the role of a technical writer, and many technical writers do both kinds of jobs.

The very existence of this profession may be a result of advances in technology moving exponentially faster than the pace of human utilization. The tremendous developments in the computer industry in terms of speed of processing argue for someone to help us bridge the gap between what exists and what we can understand based on our own experiences and education. Without the assistance of technical writers, there might be a frightening and divisive gap between science and everyday life.

So we have come to need the services of technical writers; in fact, we rely on them to a great extent. We hear about a new digital camera. We may not entirely understand how it works, but we know that if we acquire it, it will come with instructions to allow us to incorporate it into our lives.

The intensive care nurse on the neonatal ward of a children’s hospital places the same trust in the installation and operating instructions that accompany a new infant incubation unit. Although the nurse may appreciate the features and understand the need for them, without a technical manual on how to program, troubleshoot, and operate the system, the equipment would be useless.

There have always been technical specialists who wrote, but with the proliferation of technology, the field has shifted from technical specialists who write to writers who are grounded in technology. A skilled writer with a technical background can be a powerful member of a team developing any kind of structured systems design product that requires written documentation. Of course, end users will need this documentation and the training it provides to use a new system, whatever that system may be. But, increasingly, the technical writer is involved during product development. A good technical communicator can be indispensable in helping to analyze user requirements, clarify the documentation process, and solve increasingly complex communication problems with information systems management staff. The insightful technical writer can help enhance the efficiency of a design.

To fully understand how technical writers can contribute to systems design, a shift in thinking is needed. Technical writers included in a design team early on in planning can help the firm turn out a higher-quality product while reducing time and costs of systems development, testing, revision, and documentation. There are several reasons why a technical writer might make a good designer. Traditionally, it is a writer’s skill to determine what a user needs to know and when. This helps the writer to create a logical flow of information. Technical writers can combine this user’s perspective with their own experience and ability to emphasize logic, simplicity, usability, and consistency.

The change in role here is dramatic. Rather than functioning solely as the software documenter at the end of a development process, the technical writer now joins the team early on in product development to bring an end-user perspective that may have dramatic implications for product design, development, and features.

Fortunately for those aspiring to be technical writers, this proliferation of technology has not been limited to one or even a few sectors of the economy. For example, the dramatic changes in the pharmaceutical industry as it works overtime to challenge the threats of cancer and heart disease; the computer and software industries and their continued appearance in every aspect
of our lives; robotics in manufacturing; dramatic new surgical procedures and techniques and postsurgical care in medicine; and research work in communications, energy, and precision instruments are but a few of the countless developments signaling employment for the technical writer.

Writers document procedures such as how to grow bacteria, build complex viruses, develop artificial insulin, and cleanse cholesterol. Many advances in science, especially biology and chemistry, suggest that these may be promising backgrounds for future technical writers. Robotics will also provide a fruitful proving ground for new advances in engineering and hydraulics. Some of this growth seems to be localized geographically in familiar regions such as California’s Silicon Valley, the Pacific Northwest, Atlanta, central Florida, New Jersey, and Washington, D.C.

The growth of technology has led to many new, smaller, start-up organizations, many of which need technical writing expertise but not on a full-time basis. Technical writers who are entrepreneurially inclined might enjoy freelancing for a number of different organizations. What they lack in benefits and stability, they may recover in higher fees and the pleasure of an ever-changing workload.

Technology is complex, and the need for technical writers was born out of that complexity. The technology sector of our economy remains the largest employer, both currently and prospectively, for aspiring technical writers. But life in general has grown increasingly complex, and technical writers can also be found in colleges, universities, and even in advertising agencies. Technical writers can work for book, magazine, and newspaper publishers as well. Some technical writers work for the U.S. Government Printing Office producing brochures and pamphlets that cover many different fields: activities of various government agencies and reports on government work in agriculture, medicine, science, and aerospace.

Some technical writers work in non-science areas as well. There are technical writers in large insurance companies who explain terms and procedures to field agents, claims adjusters, and others who work for the firm. Technical writers can produce contracts, policies, and procedural manuals for any field from commercial shipping to banking.

In seeking entry into a field that might lead to a technical writing position, look for job descriptions that emphasize work that will provide opportunities to acquire the knowledge base you will need to attain a technical writing position. To better understand the varied duties and responsibilities inherent in a technical writer’s job, let’s look at the occupation-specific tasks and activities outlined in the O*NET Dictionary of Occupational Titles (http://online.onetcenter.org):

Analyze developments in specific field to determine need for revisions in previously published materials and development of new material. Arrange for typing, duplication, and distribution of material. Assist in laying out material for publication. Confer with customer representatives, vendors, plant executives, or publisher to establish technical specifications and to determine subject material to be developed for publication. Draw sketches to illustrate specified materials or assembly sequence. Edit, standardize, or make changes to material prepared by other writers or establishment personnel. Interview production and engineering personnel and read journals and other material to become familiar with product technologies and production methods. Maintain records and files of work and revisions. Observe production, developmental, and experimental activities to determine operating procedure and detail. Organize material and complete writing assignment according to set standards regarding order, clarity, conciseness, style, and terminology. Review manufacturer’s and trade catalogs, drawings, and other data relative to operation, maintenance, and service of equipment. Review published materials and recommend revisions or changes in scope, format, content, and methods of reproduction and binding. Select photographs, drawings, sketches, diagrams, and charts to illustrate material. Study drawings, specifications, mock-ups, and product samples to integrate and delineate technology, operating procedure, and production sequence and detail.

Technical writers emerge from two possible entry-level sites. The college graduate with an English major and sufficient technical background or willingness to acquire such background may begin as a technical writing research assistant or a technician in any of the employment sectors hiring technical writers. The employee would spend this entry-level time acquiring increasingly sophisticated technical information about the organization and its products. Larger firms may contribute substantially to a promising employee with courses, workshops, seminars, and professional conference invitations. Other entry-level positions are for technicians with an interest in developing writing skills as technical writers. These individuals are most often already employed within an organization and seek either job change or job modification to explore this possibility. In most cases they would be assigned to work closely with an established staff technical writer who would give them
research assignments and pieces of writing to edit and use as a training tool to improve the quality of the trainee's writing efforts.

The promotion ladder next moves up to full-fledged technical writer and from there to technical editor. The technical editor assigns tasks, monitors work flow and deadline dates, and has overall responsibility for quality. This individual, as a department head, might also evaluate employees, manage the department budget, make equipment purchases, hire new staff, and participate in other organizational efforts.

The following actual advertisements are illustrative of established technical writing positions and detail not only desired backgrounds and qualifications but also suggest the variety of settings in which technical writing takes place:

**Technical Writer.** Restaurant industry. Publicly traded full service restaurant company with forty locations and new restaurants opening this year. Responsible for developing, writing, and editing training materials for initiatives and projects; updating all training material; clarifying and reorganizing draft material for content and structure; suggesting ways to present material; ensuring consistency is maintained across documents; developing and maintaining a schedule for all assigned editing and meeting associated deadlines; maintaining and updating the style guide. B.A. required, solid knowledge of Word, familiarity with tools common to tech writers, Quark experience preferred, restaurant experience preferred.

**Junior Technical Writer.** Leading provider of temp IT professionals. Duties: gather information to produce end-user documentation, carry out technical writing assignments (software user guides, online help, Web-based documents), and proofread and edit documents. Formal education in technical writing required, some experience preferred.

**Environmental Technical Writer.** Environmental agency. Acquire and summarize key documents; assist with the preparation of fact sheets, project summaries, testimonials, and case studies; assist in contacting principal investigators receiving grant funding; review material to develop charts, graphs, and other graphics; assist with developing material for website. Requires bachelor’s degree and some experience.

**Working Conditions**

Most technical writers live in or near major metropolitan areas. Jobs are available around the country, but they are concentrated in New York, Chicago, Los Angeles, Boston, Philadelphia, San Francisco, and Washington, D.C.

Working conditions will depend on the industry and type of specialty required. Many technical writers are employed in the software industry, which tends to provide more flexible hours and allow more casual dress, although many hours of overtime may be required as release dates and publishing deadlines approach.

Some technical writers handle pieces of machinery or operate computer programs to determine the best way to explain the procedures. For many other technical writers, their day is sedentary as they sit at a personal computer to produce their written product. Freelance technical writers often work odd hours to fit this work into another full-time work schedule.

The most important aspect of technical writers’ working conditions is that they must constantly be learning new technologies and developments in their field of expertise in order to remain attractive to their employer or contractor. Most begin any new project with extensive research, so some of their time is spent on the Internet and in libraries and research facilities. But not all their research is on the Web or with books and manuscripts. They may be called on to do some interviewing as well. Both research activities and interviewing assignments can provide some travel opportunities and variety to the working conditions of a technical writer.

**Training and Qualifications**

Technical writing positions require at least a four-year degree, and it can take up to six additional years of training or schooling to acquire the specialized knowledge necessary to work in some areas. Students graduating with a degree in English must begin as early as they can to build an area of technical expertise. Choosing a minor in a science or computers is one way to accomplish this.

Effective communication skills are required in this occupation. Many would wrongly assume that this job is solitary or suitable for an introverted person. In fact, as a technical writer you will interact with countless other professionals and will need to be a superb communicator at all levels. The
writer must be prepared to extract information from others who use a highly specific and technical vocabulary.

Though technical writers come from any number of educational backgrounds, including English, they share many basic skills. They are required to be logical, disciplined, accurate, and detailed in their writing. They often must thoroughly research their subject matter before beginning to write, and confer early and frequently with other authorities in the field to ensure accuracy and quality of information. They must have strong research skills, and they frequently employ research in their preparation to write. In this preparation, they may encounter technical diagrams, blueprints, schematics, flowcharts, and any number of highly specialized and technical aids, which they must then interpret.

Accuracy and attention to detail are critical. It cannot be stressed enough that "attention to detail" for technical writers is of an entirely different order than our everyday use of that phrase. Some might say it needs to be almost pathological because the detail in technical writing is the essence of the work. Pose under pressure and the ability to work with deadlines make aspects of this job similar to news reporting. Curiosity and aggressiveness about acquiring information suggest that some qualities of a detective would be helpful.

In addition to consultations throughout the writing process with other experts in the field, the technical writer's work is subject to final review by professionals in the subject area. In fact, much technical writing is collaborative, and the technical writer must be comfortable working and creating in a team environment.

The foundation of the technical writer's skill, however, is not just excellent writing, but a thorough grounding in some technical specialty. For this reason, entry-level technical writing positions are a little more scarce than those requiring solid experience. Technical writers sometimes gravitate to this profession after some years of work in a technical specialty. Writing skill can be developed and polished in the general writing assignments that we encounter in the work environment, but technical writing is founded on knowledge and expertise gained through experience. Aspiring technical writers often begin by doing research or working alongside an established technical writer, helping with drafts and editing.

This skill is more than simple translation of the material from technospeak to plain English; it is, in fact, the transformation of material that is too obtuse to be useful into information that can be easily understood and appreciated by the intended audience. So the writing, while crucial, cannot really be separated from the technical skill and grounding in the specialized field. The explosion of information has led the Society for Technical Com-

munications to create a number of Special Interest Groups (SIG). Each SIG is composed of members with common experiences and interests who share their skills and knowledge with each other and with other STC members. A few examples are Canadian Issues, Information Design, and Scientific Communication.

It is certainly understandable in reading about the technical expertise and attention to detail required of a technical writer that some individuals interested in this career may feel that this isn't really writing, but rather some kind of robotic translation. Nothing could be further from the truth. Many current scholars point out that as far back as Geoffrey Chaucer's A Treatise on the Astrolabe we have marvelous models for how technical writers can incorporate into their works rhetorical components such as coherent organization, appropriate content, accurate descriptions, personable tone, varied sentence structure, and even humor.

Although even practicing technical writers may find it difficult to inject humor into their writing, it has been argued that the use of humor as part of a technical writing text gives documentation several advantages, including the suggestion that both the writer and designer are genuinely engaged in the subject. That engagement is compelling to the reader and lightens what might otherwise be an overly heavy approach to the subject. There's no question that most documentation is seen as dry in style and content. The argument here is not for humor for the sake of humor, but rather for humor judiciously used to enhance the documentation. The continuing dialogue on this and other stylistic matters shows there certainly is a place for the thinking, stylistically concerned writer in the field of technical writing.

It will come as no surprise to aspiring technical writers that their command of computer technology must be substantially more than simple word processing skills. Desktop publishing familiarity would be considered a basic skill, as would some computer graphics, analysis software, spreadsheet capability, and any number of other programs for the manipulation of data. All of these would be helpful to the technical writer and add to a candidate's attractiveness in this market.

The following phrases from recent job descriptions are representative of nearly every ad that was examined, and they highlight the importance of building experience in a range of software applications: "Requires two to four years experience with MS Office." "Must be knowledgeable with all Windows XP applications, i.e., Word, PowerPoint, Excel, Graphics." "Familiarity with HTML a plus." "Working knowledge of database software is required." "Experience with developing Web pages." Knowledge of Visio, Adobe Acrobat, and Photoshop."
Earnings

As of this writing, the average salary range for an entry-level technical writer is $36,300 to $42,500. Be sure to check a website such as salary.com for the most current information available.

How much freelancers earn varies widely and has much to do with their experience, subject matter specialty, and reputation as well as the nature and originator of whatever assignment they are working on. Since they are self-employed, they must provide their own benefits. Many job postings were found on the Web, and some listed the amount that would be paid.

Career Outlook

The outlook for technical writers is excellent. The U.S. Department of Labor, Bureau of Labor Statistics, reports faster than average growth of technical writers due to the proliferation of scientific and technical information and the need to communicate that information.

Approximately fifty thousand people worked as technical writers in the United States in 2003, and that number is projected to grow to sixty-three thousand in the year 2012. The federal government employs a number of these workers. Nongovernment workers are employed in a wide range of industries, and the employment outlook will vary with the industry in which you hope to be employed.

Revolutions in the personal computer market, networking capabilities, and the use of laptops, notebooks, personal digital devices, and other types of equipment all suggest that the need for technical writers in the computer hardware industry will grow. Existing and emerging technologies in several types of software will also provide opportunities for growth in the software industry, traditionally one of the largest sources of employment for technical writers.

The increasing use of online retail trade, especially in the customer service area, provides many job opportunities for technical writers. They assist in developing product information and technical information that is posted on a company’s Internet site. This information allows companies to efficiently manage customer relations and improve customer satisfaction. Growth is also projected in the biotechnology industry, which introduces breakthrough processes and products in medicine, agriculture, and the environment.

Some industries do not hold as much promise, however. Be sure to do some basic research on any industry you are considering. A good resource for exploring this subject is the Internet. Simply use your favorite search engine, enter the industry name, and then begin reviewing the many citations. Information will include discussions of short- and long-term industry prospects, including employment trends.

Strategy for Finding the Jobs

By targeting the type of technical writing you want to do, targeting specific industries, and identifying useful resources for job listings, you will find the job search to be easier than you might have originally thought. Read on for more information about how to accomplish each of these tasks.

Target the Type of Technical Writing You Want to Do

Technical writers possess a technical knowledge base in at least one field, so your job search will be affected by the depth of your specialized knowledge at this point. You might already have a solid background in a given field or industry. Perhaps you have a minor in computer information systems and have done an internship with a software manufacturer. In this case, you’ll want to network with employers and review the many job listings made available by professional associations such as the Society for Technical Communication (stc.org) and other job sites on the Internet. Some associations allow only members to review job listings. Two examples are the American Medical Writers Association (amwa.org) and the National Association of Science Writers (nasw.org). Nonetheless, their sites provide much useful information.

Target Specific Industries

If you have not yet had an opportunity to build a level of technical expertise, begin your job search by identifying industries that truly interest you. The next few years will be a continuation of your education as you increase your knowledge in a given field, so choose something you can get excited about. Once you identify an industry, begin reviewing entry-level job postings in that field to develop a list of potential employers. If you have the funds, join a professional organization that serves this type of worker. Once you develop a list of employers, contact them and conduct informational interviews with as many as you can. Between your review of the job listings and your networking activity, you will quickly gain an understanding of the job possibilities in your chosen sector of the economy and for the geographic location you are targeting.
Identify Useful Resources

Begin your search for actual job listings for technical writing positions, or positions that will allow you to begin building a technical expertise, by using the Internet. Just a few of the major Internet career sites that will lead you to these types of position advertisements are careerbuilder.com, jobbankusa.com, and monster.com. As you spend more time exploring career sites, it will become easier to find the kind of job description and listing you are looking for.

Possible Employers

As you discovered in previous sections of this chapter, the employment opportunities for technical writers can be found anywhere there is technical information that needs to be relayed to other professionals working in the industry, or where there is information that needs to be simplified for a lay audience. These needs cross nearly every industrial and geographic boundary. Industries needing and hiring technical writers include the following:

- Natural resources and energy
- Construction and related industries
- Industrial materials and components
- Production and manufacturing equipment
- Information and communications
- The consumer economy
- Transportation and travel
- Health care
- Financial services
- Business and professional services
- Public administration

Remember, it is important to build a knowledge base in at least one technical area, so you may want to begin your search for employment by looking for entry-level jobs that will allow you to begin gaining the required expertise.

Listed under each employer category are resources you can use to develop a list of potential employers. Our purpose in listing these resources is simply to help you understand where you can find employers who typically hire in a given industry. Use the information in Chapter 3 to help you identify additional employers who hire technical writers.

Natural Resources and Energy

This industry includes metals and industrial minerals mining, coal mining, crude petroleum and natural gas, petroleum refining, and electricity production and sales; technical writers are needed in each of these areas. For example, companies that operate oil and gas fields use complex equipment and procedures to extract oil and gas from the ground. Field technicians must have a complete understanding of the equipment and procedures so that they can work efficiently and handle any problems or disasters that may arise.

There is great risk of accident and natural disaster in all aspects of the natural resources and energy field. Mine cave-ins, oil-well blowouts, and underground fires call for quick response and managing highly complex equipment. Instructions and associated visuals must be crystal clear for situations such as these when tension adds to the difficulties. Technical writers help to create manuals and emergency procedure directions so that these high-risk situations can be brought under control in a time- and cost-efficient manner. It is no exaggeration to say that, in these cases, their work can mean the difference between life and death.

Help in Locating These Employers. There are so many hiring companies in this industry that it would be nearly impossible to list them all here. Resources such as Standard and Poor's Industry Surveys and Moody's Industrial Manual provide lists of companies by type of industry. Use these kinds of references available at your college library to build your list of companies in this industry. Once you identify actual company names using paper-based resources, using the Internet to search for jobs at these companies becomes an easy task to undertake.

Some of the professional organizations that can provide useful information on the petroleum industry include the American Petroleum Institute (api.org), the Coordinating Research Council (crcr.com), the Gas Technology Institute (gastechnology.org), and the Canadian Energy Research Institute (ceri.ca). There are similar professional associations for each of the various natural resources and energy subindustries.

Construction

The construction industry includes private residential, private nonresidential, publicly owned, and international construction firms. The skills of the technical writer are needed here, too. The blending of the aesthetic demands of the architect, the building codes required in a particular locality, cost and energy constraints, and the overriding pressure of labor costs associated with protracted construction schedules all place heavy demands on the technical
Production and Manufacturing Equipment

This industry covers a range of manufacturers, including metalworking equipment, production machinery, electrical equipment, environmental technologies and services, aerospace, ship building and repair, industrial and analytical instruments, and photographic equipment and supplies.

If we look more closely at the aerospace industry, we find that it includes aircraft, missiles, and space-launch vehicle production and manufacturing. If you are interested in being involved in technical writing somehow associated with this industry, employers continue to hire technical writers.

Help in Locating These Employers. You could begin your search for employment by finding out which employers manufacture equipment needed to keep space-launch programs operational. Most states' manufacturing activity is summarized in the Manufacturers Directory, which is available at many public libraries and college libraries. These directories list manufacturers by their Standard Industrial Classification (SIC) code. For each manufacturer listed, you will usually find contact information (address and phone number), a summary of products, sales information, company officers, and number of employees.

If you are interested in finding out more about employment in the aerospace industry, the Aerospace Industries Association (aia-aerospace.org) can provide information, as can the General Aviation Manufacturers Association (generalaviation.org).

Information and Communications

When you think about printing and publishing, information services, computer equipment, computer software and networking, telecommunications services, telecommunications and navigation equipment, and entertainment and electronics, you are thinking about the information and communications industry.

Many technical writers are employed in this sector of the economy, especially in computer software and networking. One dynamic segment of this industry is CAD/CAM/CAE or computer-aided design, computer-aided manufacturing, and computer-aided engineering. Engineers, designers, and draftsperson all use these types of software and, as new products come onto the market, technical writers must create new instruction manuals to help users effectively incorporate these tools into their work.

Help in Locating These Employers. There are many large as well as small start-up companies that offer employment prospects. The Internet is really
the best place to look for industry information, employer names, and job listings. Use any of the major sites (careerbuilder.com, jobbank-usa.com, or monster.com), and begin exploring. And you should plan to submit your résumé via the Internet when seeking a job in the information and communications industry.

A comprehensive website that contains information and related links, and that serves as a reference resource for corporate IT, computer software, computers, and communications is that of the Computer Information Center (compinfo.co.uk/index.htm). Some industry-specific organizations include the Software and Information Industry Association (sia.net) and the Electronic Industries Alliance (eia.org).

Consumer Economy

The consumer economy provides many opportunities to the aspiring technical writer. Wholesaling and retailing of food and beverages, apparel, motor vehicles, household furniture and appliances, and sporting and athletic goods are all a part of this sector of the economy. Nearly every item sold, no matter how simple or complex, is accompanied by a set of user instructions. If you want to sync podcasts to your iPod, you want to be sure that you have set it up correctly to hear all the shows that interest you. So you get out the instruction manual. You find the instructions easy to understand and, in just a few minutes, you've subscribed to lots of free radio shows. Say thanks to the technical writer!

Help in Locating These Employers. There are a myriad of both employers and professional associations connected with the consumer economy. You may be especially interested in one type of product or activity, so let your search begin on the Internet. If bicycling is an interest, then try the Bicycle Helmet Manufacturers' Association (helmets.org/phma.htm); if it's sewing, how about the American Textile Machinery Association (atmanet.org); or if it's cars, how about the Automotive Industry Action Group (aiag.org); you get the idea.

Or you can use the Encyclopedia of Associations to locate related professional organizations. Each association will tell you whether it includes job listings on its website or in its newsletter and can advise you on the best sources for additional job listings. Don't hesitate to check their websites for other valuable career information.

Transportation

Transportation includes airlines, railroads, trucking, water transportation, and domestic shipping. Each of these sectors uses complex computerized information systems tailored for its specific use, and technical writers are needed to explain the mechanics of these systems. One of the largest and most complex computerized information systems in place today is the airline reservation system. Computer programmers, computer operators, system managers, airline executives, reservations operators, and travel agencies are all linked together, and each must understand how to use this system. Translations from technical to lay terms are needed when different kinds of system users interact.

Help in Locating These Employers. There are many well-known employers in the transportation industry, and each uses information systems, equipment, and procedures that need to be clearly explained to employees. If you are interested in working in this industry, develop your list by reviewing Moody's Transportation Manual at your college or local public library.

Some of the professional associations related to the transportation and travel industry include the Air Transport Association of America (airlines.org), Association of American Railroads (aar.org), American Trucking Associations (truckline.com), and the Lake Carriers Association (lcships.com).

Health Care

The quality of health care and the way it is delivered in the United States is in the forefront of the news. If you want to be employed in this ever-changing industry, the industrial groups to consider are health and medical services and medical and dental instruments and supplies.

Caring for aging parents using currently available health-care options is one topic receiving a lot of press. Understanding the options—home care, congregate housing, assisted living, continuing-care facilities, and nursing homes—and associated costs is of great import to today's families. The skill of the technical writer is used to document and present this information. Decisions are often made in a time of crisis. An organized, logical, and clear explanation to consumers who will be placing parents in these facilities could mean a real difference in the quality of life for all those involved.

Help in Locating These Employers. If you are interested in working as a technical writer in the health-care industry, you may want to begin your search by going online to find current information on the industry, companies, and associations as well as links to actual job listings. For example, searching the Internet by entering the words "healthcare industry association" will bring up the Canadian Healthcare Information Technology Trade Association's name (chitta.ca) and a number of other sites you can explore.

Several organizations that can provide information on health care include the Medical Device Manufacturers Association (medicaldevices.org), National
Association for Home Care (nabc.org), and the National Association for Healthcare Quality (nahq.org).

Financial and Business Services
You will find commercial banking, international commercial banking, savings institutions, mutual fund companies, securities firms, commodities futures trading companies, and insurance companies in the financial and business services industry. As this industry has grown more complex, its documentation has grown equally complicated, with some surprising results. Consumers, angry about their inability to understand the complexities of legal documents used by these industries, have frequently sued and won court cases over issues of obscure language. Technical writers have been asked to replicate the essence of these complex agreements for financial services in user-friendly language that still conveys all the required legal points of culpability, responsibility, and ownership.

Help in Locating These Employers. Some resources that can be used to generate lists of potential employers include the National Credit Union Administration Directory, Directory of Bond Agents, Security Dealers of North America, and Best’s Insurance Reports.

Many professional associations are in place for this industry. Just a few of the larger associations include the American Bankers Association (aba.com), Futures Industry Association (futuresindustry.org), National Association of Mutual Insurance Companies (namic.org), and the Insurance Industry Internet Network (iiin.com).

Professional and Business Services
Professional and business services include equipment leasing, accounting, auditing, bookkeeping, advertising, legal services, management, consulting, and public relations. Business associations, professional organizations, and labor organizations are also included in this category.

One of the great success stories of American business has been the restaurant franchise. Many enterprising businesspeople have become millionaires through buying and successfully managing a branch of a national restaurant chain such as Pizza Hut, McDonald’s, Burger King, and Hardee’s. To ensure consistent quality of its products, each of these chains provides every owner with a specification document for each product it sells. If the franchisee can duplicate that product according to these specifications (written by the technical writing staff), they may buy locally. If a local vendor cannot meet these

exacting specifications, the franchisee must purchase from the franchise owner. The specifications for McDonald’s sesame seed buns even document the density of sesame seed coverage!

Help in Locating These Employers. As you begin to develop a list of potential employers to contact, some references to check include Who Audits America, Standard Directory of Advertising Agencies, Directory of Management Consultants, Consultants and Consulting Organizations Directory, O’Dwyer’s Directory of Corporate Communications, and O’Dwyer’s Directory of Public Relations Firms. There are many industry-specific career guides that also list specific company names.

You can contact the American Association of Advertising Agencies (aaaa.org), American Bar Association (abanet.org), American Institute of Certified Public Accountants (aicpa.org), Institute of Management Consultants (imcusa.org), and the Public Relations Society of America (prsa.org) to get more specific information on technical writing and other career opportunities available with that type of employer.

Federal Government
The procedures for shredding and destruction of classified documents, the safe storage procedures for confidential material, the arming of a security system on a naval base, the fire-control trajectory instructions for a shipboard missile assembly, and directions for assembling and heating field rations are just some of the countless ways in which technical writers provide needed skills in the federal government.

Help in Locating These Employers. Many federal agencies employ technical writers; a few of the largest agencies include the Department of the Interior, Department of Agriculture, National Aeronautics and Space Administration, Department of Defense, Nuclear Regulatory Commission, Environmental Protection Agency, National Institutes of Health, Centers for Disease Control, and the Department of Energy. Most of these agencies operate their own personnel/human resources function, so contacting them directly is a good way to begin. A place to start looking for actual job listings is on the U.S. government’s website, usajobs.opm.gov. This site explains the federal employment process and lets you look at current job openings, get general information on federal agencies, and submit an online application.

If you select the option “Search Jobs” and then do a keyword search using “technical writer,” a list of open positions will be generated. Select any of
the entries and a detailed job description will be provided, including information on whom to contact for more information and how to apply for the specific position.

State and Local Government
State and local governments continue to be impacted by a variety of federal legislation in every area of government. Social services, wetlands conservation, schools, hospitals, and taxes have all become increasingly complex and the subject of intense public scrutiny and emotion. In every case and at every level, directives and policies must be reinterpreted and tailored to the region, locality, or government level involved. This is the job of the technical writer.

Help in Locating These Employers. Some state and local governments provide both entry-level positions that can help you build your technical knowledge base and actual technical writing jobs. Start by contacting the state or city human resources department in the geographic area where you would like to work. Talk with someone there about departments and offices that hire technical writers. Many state and local government jobs are listed in each state's larger newspapers, and websites contain job listings. Use your favorite search engine and enter “State of (put state name here).” You will find references to state departments; look for Employment, Personnel, or Human Resources, then look for job listings, opportunities, and so on. You will also find application procedures and contact names, and some sites will allow you to apply online. Don’t hesitate to directly contact government units that you discover have a need for technical writing skills. Be proactive and let the directors of those government units know you have skills they can put to use.

Possible Job Titles
Technical writing jobs are usually advertised as such, but you will also see:

- Technical communicator
- Medical writer
- Technical editor
- Publications specialist
- Science writer
- Usability specialist
- Documentation manager
- Information developer

- Documentation specialist
- Technical translator

As you begin to consider entry-level jobs that could be used to gain expertise in a specific industry or discipline, the range of job titles to consider expands. Look for job titles that might include:

- Media associate
- Marketing associate
- Proposal writer
- Associate editor
- Editorial assistant
- Copywriter
- Museum assistant
- Research assistant
- Field technician
- Lab technician
- Designer
- Computer programmer
- Systems analyst
- Reporter

Related Occupations
There are three often-mentioned job titles that relate to technical writing: researcher, science journalist, and public information writer. A brief description of each follows.

Researchers conduct studies and gather verbal or statistical information. They then analyze the data and prepare reports to describe their findings. Researchers work in nearly any discipline you can imagine, including law, medicine, politics, genetic engineering, physics, animal care, food science, agronomy, geology, meteorology, soils, oceanography, and psychology.

Science journalists translate technical information into a public interest format and relate that information via newspaper and magazine articles, press releases, radio and TV scripts, trade books, textbooks, information booklets, and encyclopedia entries.

Public information writers usually work for high-technology industries, public research agencies, or colleges and universities. These writers help the outside world understand research efforts going on within their organization.
They may use the written word, photographs, videotapes, or audiotapes to convey their message to various audiences, including chief executive officers, members of the general public, alumni, or representatives from news organizations.

**Professional Associations for Technical Writers**

Many associations can provide information valuable to your job search in technical writing, but there are a few that you especially should consider contacting. Find out about membership benefits as you request more general information from the group. Joining any of these associations will increase your knowledge of current industry trends and issues, all of which affect hiring prospects.

**American Medical Writers Association**

9650 Rockville Pike
Bethesda, MD 20814
amwa.org

**Members/Purpose:** Medical writers, editors, audiovisualists, public relations, and pharmaceutical personnel; publishers; and others concerned with communication in medicine and allied sciences

**Training:** Hosts conferences

**Journals/Publications:** Journal, membership directory, freelance directory

**Job Listings:** Members can access job postings online

**Canadian Science Writers Association**

P.O. Box 75, Station A
Toronto, ON
M5W 1A2
sciencewriters.ca

**Members/Purpose:** Media professionals, communications officers in science and technology institutions, technical writers, and educators

**Training:** Hosts annual conference

**Job Listings:** Online job board lists open positions

**Construction Writers Association**

P.O. Box 5586
Buffalo Grove, IL 60089
constructionwriters.org

**Members/Purpose:** Writers and editors for media, public relations, and advertising in the construction field

**Journal/Publication:** Newsletter

**Job Listings:** Help-wanted tab on website shows current openings

**National Association of Science Writers**

P.O. Box 890
Hedgesville, WV 25427
nasw.org

**Members/Purpose:** Writers and editors engaged in the preparation and interpretation of science news for the public

**Journal/Publication:** *Science Writers* quarterly review

**New York Financial Writers Association**

P.O. Box 338
Ridgewood, NJ 07451-0338
nyfwa.org

**Members/Purpose:** Financial and business editors and writers whose publications are located in metropolitan New York

**Journal/Publication:** Directory

**Job Listings:** Listings are available to members only

**Society for Technical Communication**

901 N. Stuart St., Suite 904
Arlington, VA 22203-1854
stc.org

**Members/Purpose:** Technical writers and editors, content developers, documentation specialists, technical illustrators, instructional designers, academics, information architects, usability and human factors professionals, visual designers, Web designers and developers, and translators dedicated to advancing the arts and sciences of technical communication

**Training:** Society offers seminars, lectures, workshops, international symposia, and an annual conference to keep technical communicators informed of latest techniques and methods in communication

**Journals/Publications:** *Intercom Online, TechComm, Proceedings*

**Job Listings:** Online job listings posted in the Career Center