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Communications, Design, Performing Arts, and Related Occupations



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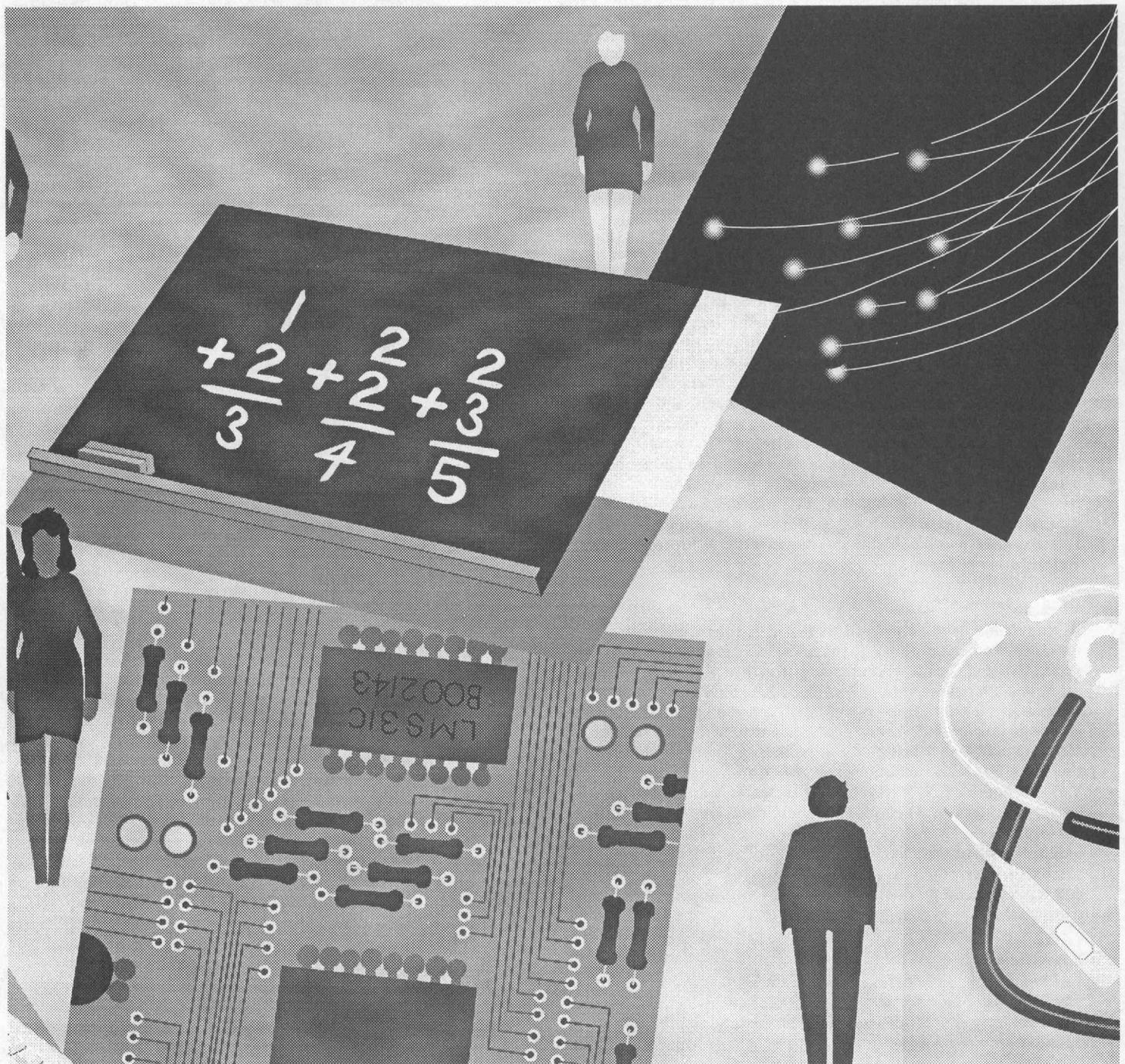
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Actors, Directors, and Producers

(D.O.T. 139.167; 150 except .027-014; 159.041, .044, .047, .067, .117, .167-010 through -022, .267, .341, .344-010 and -014, .347 except -010, .367, and .647 except -018; 184.117-010, .162, and 167-014, -022 and -034; 187.167-174, -178, and -182; 961.364 and .667-014; and 962.167-014)

Nature of the Work

Actors, directors, and producers create a visual and aural image based on written words of a script in theaters, film, television, and radio. They "make the words come alive" for their audiences.

Actors entertain and communicate with people through their interpretation of dramatic roles. Actors read scripts and decide how they want to interpret their role. Then they discuss their ideas with directors and voice coaches on how to portray their characters. They rely on facial and verbal expression as well as body motion for creative effect. In some roles, they sing and dance. They also may use props and costumes to help communicate their ideas. Actors memorize lines and stage directions. Most actors also put on their own makeup.

Only a few actors achieve recognition as stars on the stage, in motion pictures, or on television. A somewhat larger number are well-known, experienced performers, who frequently are cast in supporting roles. Most actors struggle for a toehold in the profession and pick up parts wherever they can. Some actors employed by theater companies teach acting in courses offered to the public.

In addition to the actors with speaking parts, "extras," who have small parts with no lines to deliver, are used in almost all motion pictures, in many television shows, and in some theater productions.

Directors interpret plays or scripts. In addition, they audition and select cast members, conduct rehearsals, and direct the work of the cast and crew. Directors use their knowledge of acting, voice, and movement to achieve the best possible performance and usually approve the scenery, costumes, choreography, and music.

Producers are entrepreneurs. They select plays or scripts, arrange financing, and decide on the size of the production and its budget. They hire directors, principal members of the cast, and key production staff members, and they negotiate contracts with artistic personnel, often in accordance with collective bargaining agreements. Producers also coordinate the activities of writers, directors, managers, and other personnel.

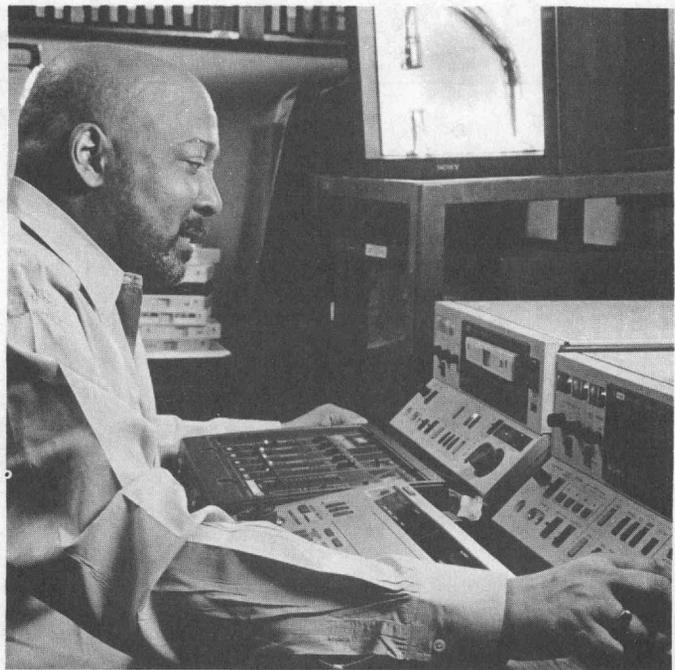
Working Conditions

Acting demands patience and total commitment, because actors must wait for parts or filming schedules, work long hours, and often travel. Evening work is a regular part of a stage actor's life. Flawless performances require tedious memorizing of lines and repetitive rehearsals. On television, actors must deliver a good performance with very little preparation. Actors need stamina to withstand the heat of stage or studio lights, heavy costumes, the long, irregular hours, and the adverse weather conditions that may exist "on location." When plays are "on the road," traveling is necessary. Actors often face the anxiety of intermittent employment and rejections when auditioning for work.

Directors and producers often work under stress as they try to meet schedules, stay within budgets, resolve personnel problems, and put together a production that will appeal enough to the public to succeed.

Employment

In 1992, actors, directors, and producers held an average of about 129,000 jobs in motion pictures, stage plays, television, and radio. Many others were between jobs, so that the total number of people actually employed as actors, directors, and producers over the



Employment in motion pictures and films for television is centered in Hollywood and New York City.

course of the year was higher. In the winter, most employment opportunities on the stage are in New York and other large cities, many of which have established professional regional theaters. In the summer, stock companies in suburban and resort areas also provide employment. In addition, many cities have small nonprofit professional companies such as "little theaters," repertory companies, and dinner theaters, which provide opportunities for local amateur talent as well as for professional entertainers. Normally, casts are selected in New York City for shows that go on the road.

Employment in motion pictures and films for television is centered in Hollywood and New York City. However, studios are also located in Florida, Seattle, and other parts of the country. In addition, many films are shot on location and employ local professionals and nonprofessionals as day players and extras. In television, opportunities are at the network entertainment centers in New York and Los Angeles and at local television stations around the country.

Training, Other Qualifications, and Advancement

Aspiring actors and directors should take part in high school and college plays, or work with little theaters and other acting groups for experience.

Formal dramatic training or acting experience is generally necessary, although some people enter the field without it. Many experienced actors get formal training to learn new skills and improve old ones. Training can be obtained at dramatic arts schools in New York and Los Angeles, and at colleges and universities throughout the country offering bachelor's or higher degrees in dramatic and theater arts. College drama curriculums usually include courses in liberal arts, stage speech and movement, directing, playwriting, play production, design, and history of the drama, as well as practical courses in acting.

The best way to start is to use local opportunities and to build on them. Local and regional theater experience may help in obtaining work in New York or Los Angeles. Modeling experience may also be helpful. Actors need talent, creative ability, and training that will enable them to portray different characters. Training in singing and dancing is especially useful. Actors must have poise, stage presence,

and the ability to affect an audience, plus the ability to follow directions. Physical appearance is often a deciding factor in being selected for particular roles.

Many professional actors rely on agents or managers to find them performing engagements, negotiate contracts, and plan their careers.

To become a movie extra, one must usually be listed by a casting agency, such as Central Casting, a no-fee agency that supplies all extras to the major movie studios in Hollywood. Applicants are accepted only when the number of persons of a particular type on the list—for example, athletic young women, old men, or small children—is below the foreseeable need. In recent years, only a very small proportion of the applicants have succeeded in being listed.

There are no specific training requirements for directors and producers. Talent, experience, and business acumen are very important. Directors and producers come from different backgrounds. Actors, writers, film editors, and business managers often enter these fields. Formal training in directing and producing is available at some colleges and universities.

As actors', directors', and producers' reputations grow, they work on larger productions or in more prestigious theaters. Actors also advance to lead roles. Some actors move into acting-related jobs as drama coaches or directors of stage, television, radio, or motion picture productions. A few teach drama in colleges and universities.

The length of a performer's working life depends largely on training, skill, versatility, and perseverance. Some actors, directors, and producers never retire, but many leave the occupation after a short time because they cannot find enough work to make a living.

Job Outlook

Employment of actors, directors, and producers is expected to grow much faster than the average for all occupations through the year 2005. In addition, workers leaving the field will create as many job openings as will growth. Nevertheless, the large number of people desiring acting careers and the lack of formal entry requirements should cause keen competition for actor, director, and producer jobs. Only the most talented should continue to find regular employment.

Rising foreign demand for American productions, combined with a growing domestic market—fueled by the growth of cable television, home movie rentals, and television syndications—should stimulate demand for actors and other production personnel. Growth of opportunities in recorded media should be accompanied by increasing jobs in live productions. Growing numbers of people who enjoy live theatrical entertainment should continue to go to theaters for the excitement and aesthetic appreciation.

Earnings

Minimum salaries, hours of work, and other conditions of employment are covered in collective bargaining agreements between producers of shows and unions representing workers in this field. The Actors' Equity Association represents stage actors; the Screen Actors Guild and the Screen Extras Guild cover actors in motion pictures, including television, commercials, and films; and the American Federation of Television and Radio Artists (AFTRA) represents television and radio performers. Most stage directors belong to the Society of Stage Directors and Choreographers, and film and television directors belong to the Directors Guild of America. Of course, each actor or director may negotiate for a salary higher than the minimum.

The minimum weekly salary for actors in Broadway stage productions was \$950 in 1993. Those in small "off-Broadway" theaters received minimums ranging from \$340 to \$579 a week, depending on the seating capacity of the theater. For shows on the road, actors receive an additional \$80 per day.

Eight performances amount to a week's work on the stage, and additional performances are paid for as overtime. Actors usually work long hours during rehearsals. Once the show opens, they have more regular hours, working about 24 hours a week.

In 1993, motion picture and television actors with speaking parts earned a minimum daily rate of \$485, or \$1,685 for a 5-day week. Those without speaking parts, "extras," earned a minimum daily rate of \$99. In addition, actors receive contributions to their health and pension plans and additional compensation for reruns.

Earnings from acting are low because employment is so irregular. According to data from Actors' Equity Association, about 60 percent of their members had no earnings from acting in 1991, and only 918 members earned more than \$35,000. The median earnings for stage acting in a course of a year was approximately \$5,200. The Screen Actors Guild reported that the average income its members earned from acting was \$1,400 a year, and 80 percent of its members earned less than \$5,000 a year from acting. Therefore, many actors must supplement their incomes from acting by holding other jobs.

Some well-known actors have salary rates well above the minimums, and the salaries of the few top stars are many times the figures cited, creating a false impression that all actors are highly paid.

Many actors who earn more than a set minimum per year are covered by a union health, welfare, and pension fund, including hospitalization insurance, to which employers contribute. Under some employment conditions, Actors' Equity and AFTRA members have paid vacations and sick leave.

Earnings of stage directors vary greatly. The top money is on Broadway—\$36,750 for a rehearsal period, which usually lasts 5 weeks. Regional theaters paid directors from \$3,415 to \$13,595 for a 3 to 5 week rehearsal period. Small dinner theaters and summer stock pay much less—\$685 to \$1,311 per week—but offer the most employment opportunities.

Producers seldom get a set fee; instead, they get a percentage of a show's earnings or ticket sales.

Related Occupations

People who work in occupations requiring acting skills include dancers, choreographers, disc jockeys, drama teachers or coaches, and radio and television announcers. Others working in occupations related to acting are playwrights, scriptwriters, stage managers, costume designers, makeup artists, hair stylists, lighting designers, and set designers. Workers in occupations involved with the business aspects of theater productions include managing directors, company managers, booking managers, publicists, and actors', directors', and playwrights' agents.

Sources of Additional Information

Information about opportunities in regional theaters may be obtained from:

☞ Theatre Communications Group, Inc., 355 Lexington Ave., New York, NY 10017.

A directory of theatrical programs may be purchased from:
☞ National Association of Schools of Theatre, 11250 Roger Bacon Dr., Suite 21, Reston, VA 22090.

Architects

(D.O.T. 001.061-010 and .167-010)

Nature of the Work

Architects design buildings and other structures. The design of a building involves far more than its appearance. Buildings must also be functional, safe, and economical and must suit the needs of the people who use them. Architects take all these things into consideration when they design buildings and other structures.

Architects provide a wide variety of professional services to individuals and organizations planning a construction project. They may be involved in all phases of development, from the initial discussion of general ideas with the client through construction. Their duties require a number of skills—design, engineering, managerial, communication, and supervisory.

The architect and client first discuss the purposes, requirements, and budget of a project. Based on the discussions, the architect may prepare a program—a report specifying the requirements the design must meet. In some cases, the architect assists in conducting feasibility and environmental impact analyses and selecting a site. The architect then prepares drawings and written information presenting ideas for the client to review.

After the initial proposals are discussed and accepted, the architect develops final construction plans. These plans show the building's appearance and details for its construction. Accompanying these are drawings of the structural system; air-conditioning, heating, and ventilating systems; electrical systems; plumbing; and possibly site and landscape plans. Architects also specify the building materials and, in some cases, the interior furnishings. In developing designs, architects follow building codes, zoning laws, fire regulations, and other ordinances, such as those that require easy access by disabled persons. Throughout the planning stage, the architect makes necessary changes. While architects have traditionally used pencil and paper to produce design and construction drawings, architects are increasingly turning to computer-aided design and drafting (CADD) technology for these important tasks.

The architect may also assist the client in obtaining construction bids, selecting a contractor, and negotiating the construction contract. As construction proceeds, the architect may be employed by the client to visit the building site to ensure that the contractor is following the design, meeting the schedule, using the specified materials, and meeting the specified standards for the quality of work. The job is not complete until all construction is finished, required tests are made, and construction costs are paid.

Architects design a wide variety of buildings, such as office and apartment buildings, schools, churches, factories, hospitals, houses, and airport terminals. They also design multibuilding complexes such as urban centers, college campuses, industrial parks, and entire communities. In addition to designing buildings, architects may advise on the selection of building sites, prepare cost analysis and land-use studies, and do long-range planning for land development.

Architects sometimes specialize in one phase of work. Some specialize in the design of one type of building—for example, hospitals, schools, or housing. Others specialize in construction management or the management of their firm and do little design work. Architects often work with engineers, urban planners, interior designers, landscape architects, and others.

During a training period leading up to licensure as architects, entry-level workers are called intern-architects. This training period gives them practical work experience while they prepare for the Architect Registration Examination. Typical duties may include preparing construction drawings on CADD, assisting in the design of one part of a project, or managing the production of a small project.

Working Conditions

Architects generally work in a comfortable environment. Most of their time is spent in offices advising clients, developing reports and drawings, and working with other architects and engineers. However, they also often work at construction sites reviewing the progress of projects.

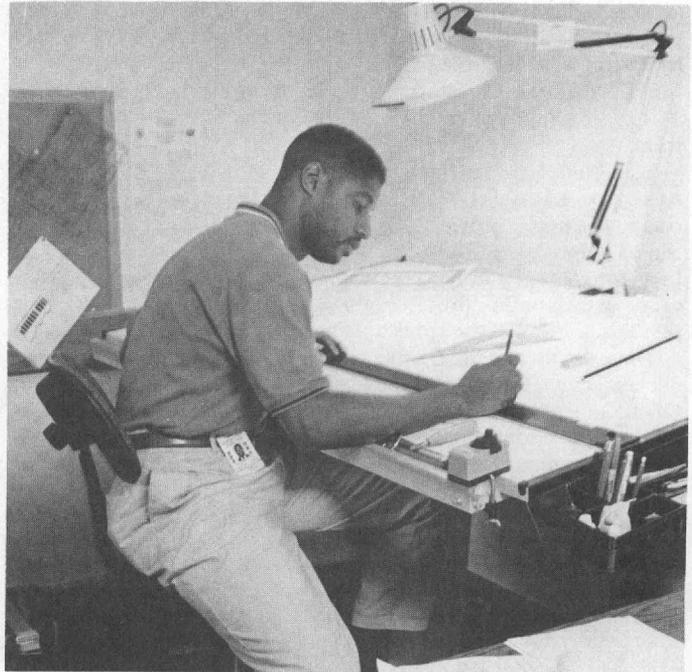
While a 40-hour workweek is usual, architects may occasionally be under great stress, working nights and weekends to meet deadlines.

Employment

Architects held about 96,000 jobs in 1992. Most jobs were in architecture firms—the majority of which employ fewer than five workers. About one-third were self-employed architects, practicing as partners in architecture firms or on their own. A few worked for builders, real estate developers, and for government agencies responsible for housing, planning, or community development such as the Departments of Defense, Interior, and Housing and Urban Development, and the General Services Administration.

Training, Other Qualifications, and Advancement

All States and the District of Columbia require individuals to be licensed (registered) before they may call themselves architects or contract to provide architectural services. Many architecture school



Architects occasionally work nights and weekends to meet project deadlines.

graduates work in the field even though they are not licensed. However, a licensed architect is required to take legal responsibility for all work. Three requirements generally must be met for licensure: A professional degree in architecture, a period of practical training or internship (usually for 3 years), and passage of all sections of the Architect Registration Examination.

In most States, the professional degree in architecture must be from one of the approximately 100 schools of architecture with programs accredited by the National Architectural Accrediting Board. There are several types of professional degrees in architecture. Over half of all architecture degrees are from 5-year Bachelor of Architecture programs intended for students entering from high school. Some schools offer a 2-year Master of Architecture program for students with a preprofessional undergraduate degree in architecture or a related area, or a 3- or 4-year Master of Architecture program for students with a degree in another discipline. In addition, there are many combinations and variations of these degree programs.

The choice of degree type depends upon each individual's preference and educational background. Prospective architecture students should carefully consider the available options before committing to a program. For example, although the 5-year Bachelor of Architecture program offers the fastest route to the professional degree, courses are specialized and, if the student does not complete the program, moving to a nonarchitecture program may be difficult. A typical program includes courses in architectural history and theory, building design, including its technical and legal aspects, professional practice, math, physical sciences, and liberal arts. Many architecture schools also offer graduate education for those who already have a bachelor's or master's degree in architecture or other areas. Although graduate education beyond the professional degree is not essential for practicing architects, it is normally required for research, teaching, and certain specialties.

Architects must be able to visually communicate their ideas to clients. Artistic and drawing ability is very helpful in doing this, but not essential. More important is a visual orientation and the ability to conceptualize and understand spatial relationships. Good communication skills (both written and oral), the ability to work independently or as part of a team, and creativity are important qualities for anyone interested in becoming an architect. Computer literacy is also required as most firms use computers for word processing, specifications writing, two- and three-dimensional drafting, and financial management. A knowledge of computer-aided design and

drafting (CADD) is helpful and will become more important as architecture firms continue to adopt this technology.

New graduates usually begin in architecture firms, where they assist in preparing architectural documents or drawings. They also may do research on building codes and materials; or write specifications for building materials, installation criteria, the quality of finishes, and other related details. Graduates with degrees in architecture also enter related fields such as graphic, interior, or industrial design; urban planning; real estate development; civil engineering; or construction management.

In large firms, architects may advance to supervisory or managerial positions. Some architects become partners in established firms; others set up their own practice.

Job Outlook

Employment opportunities for architects are highly dependent on the level of local construction, particularly of nonresidential structures such as office buildings and shopping centers. Because the level of construction nationally is not expected to be higher during the 1992-2005 period than the 1980's, employment growth of architects is expected to increase as fast as the average for all occupations through 2005. Although the need to replace architects who leave the labor force will provide many job openings in addition to growth openings, and the number of degrees granted in architecture is not expected to increase significantly, prospective architects may still face competition, particularly for jobs in the most prestigious firms. Also, noninstitutional construction is sensitive to cyclical changes in the economy, and during recessions architects will face strong competition for jobs or clients, and layoffs may occur. Architects involved in the design of institutional buildings such as schools, hospitals, and nursing homes, will be less affected by fluctuations in the economy. The expected expansion of the population under age 15 and over age 65 should spur the demand for such buildings.

Even in times of overall good opportunities, there may be areas of the country with poor opportunities. Architects who are licensed to practice in one State must meet the licensing requirements of other States before practicing elsewhere. These requirements are becoming more standardized, however, facilitating movement to other States.

Although the use of computer-aided design and drafting is becoming more prevalent in architecture firms, it is not expected to reduce the need for architects. Rather, CADD allows architects to visualize, develop, and present more options, and to make changes in plans and elevations more easily, improving the quality of building designs and increasing productivity and profit margins for firms. Prospective architects who know CADD technology may experience better opportunities in the future, particularly in a competitive job market.

Earnings

According to The American Institute of Architects, the median salary for intern-architects in architecture firms was \$24,500 in 1992. Licensed architects with 8 to 10 years' experience but who were not managers or principals of a firm earned a median salary of \$36,700 in 1992; and principals or partners of firms earned a median salary of \$50,000 in 1992. Partners in some large practices earned over \$100,000. Most employers of wage and salary architects offer paid vacation and sick leave, and many also provide medical insurance. Employees of very small architecture firms (fewer than 5 employees) are less likely to receive these benefits.

Architects who are partners in well-established architecture firms generally earn much more than their salaried employees, but their income may fluctuate due to changing business conditions. Architects may have difficulty getting established in their own practices and may go through a period when their expenses are greater than their income, requiring substantial financial resources.

Related Occupations

Architects are concerned with the design and construction of buildings and related structures. Others who engage in similar work are landscape architects, building contractors, civil engineers, urban

planners, interior designers, industrial designers, drafters, and graphic designers.

Sources of Additional Information

Information about education and careers in architecture can be obtained from:

Director, Careers in Architecture Programs, The American Institute of Architects, 1735 New York Ave. NW., Washington, DC 20006.

Dancers and Choreographers

(D.O.T. 151.027-010, and .047-010)

Nature of the Work

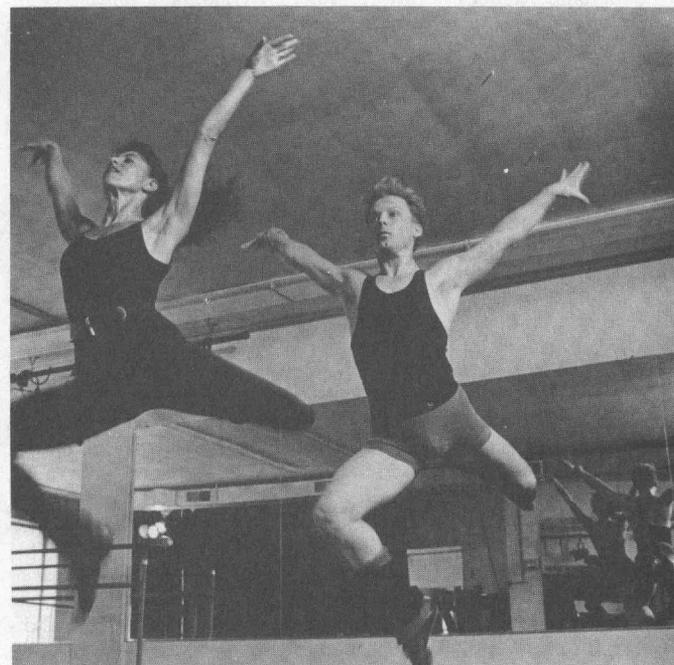
From ancient times to the present, dancers have expressed ideas, stories, rhythm, and sound with their bodies. Many perform in classical ballet, which includes the stylized, traditional repertory. They also may perform modern dance, which allows more free movement and self-expression. Others perform in dance adaptations for musical shows, in folk, ethnic, tap, and jazz dances, and in other popular kinds of dancing. In addition to being an art form for its own sake, dance also complements opera, musical comedy, television, movies, music videos, and commercials. Therefore, many dancers sing and act, as well as dance.

Dancers most often perform as a group, although a few top artists dance solo. Many dancers combine stage work with teaching or choreographing.

Choreographers create original dances. They may also create new interpretations to traditional dances like the "Nutcracker" since few dances are "written down." Choreographers instruct performers at rehearsals to achieve the desired effect. They also audition performers.

Working Conditions

Dancing is strenuous. Rehearsals require very long hours and usually take place daily, including weekends and holidays. For shows on the road, weekend travel often is required. Most performances take place in the evening, and dancers must become accustomed to working late hours.



Dancing is physically demanding and strenuous.

Due to the physical demands, most dancers stop performing by their late thirties, but they sometimes continue to work in the dance field as choreographers, dance teachers and coaches, or as artistic directors. Some celebrated dancers, however, continue performing beyond the age of 50.

Employment

Professional dancers held an average of about 18,000 jobs at any one time in 1992. Many others were between engagements so that the total number of people employed as dancers over the course of the year was greater. In addition, there were many dance instructors in secondary schools, colleges and universities, dance schools, and private studios. Many teachers also performed from time to time.

New York City is the home of many of the major dance companies. Other cities with full-time professional dance companies include Atlanta, Boston, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Houston, Miami, Milwaukee, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Seattle, and Washington, D.C.

Training and Other Qualifications

Training depends upon the type of dance. Early ballet training for women usually begins at 5 to 8 years of age and is often given by private teachers and independent ballet schools. Serious training traditionally begins between the ages of 10 and 12. Men often begin their training between the ages of 10 and 15. Students who demonstrate potential in the early teens receive more intensive and advanced professional training at regional ballet schools or schools conducted under the auspices of the major ballet companies. Leading dance school companies often have summer training programs from which they select candidates for admission to their regular full-time training program. Most dancers have their professional auditions by age 17 or 18; however, training and practice never end. For example, professional ballet dancers have 1 to 1 1/2 hours of lessons every day and spend many additional hours practicing and rehearsing.

Early and intensive training also is important for the modern dancer, but modern dance generally does not require as many years of training as ballet.

Because of the strenuous and time-consuming training required, a dancer's formal academic instruction may be minimal. However, a broad, general education including music, literature, history, and the visual arts is helpful in the interpretation of dramatic episodes, ideas, and feelings.

Many colleges and universities confer bachelor's or higher degrees in dance, generally through the departments of physical education, music, theater, or fine arts. Most programs concentrate on modern dance but also offer courses in ballet/classical techniques.

A college education is not essential to obtaining employment as a professional dancer. In fact, ballet dancers who postpone their first audition until graduation may compete at a disadvantage with younger dancers. On the other hand, a college degree can help the dancer who retires at an early age, as often happens, and wishes to enter another field of work.

A college education is also an advantage for college or university teaching. However, it is not necessary for teaching dance or choreographing professionally. Studio schools usually require teachers to have experience as performers; colleges and conservatories generally require graduate degrees, but performance experience often may be substituted.

The dancer's life is one of rigorous practice and self-discipline; therefore, patience, perseverance, and a devotion to dance are essential. Good health and physical stamina are necessary in order to practice and perform and to follow the rugged schedule often required. Good feet and normal arches also are required. Above all, one must have flexibility, agility, coordination, grace, a sense of rhythm, and a feeling for music, as well as a creative ability to express oneself through movement.

Dancers seldom perform unaccompanied, so they must be able to function as part of a team. Dancers also should be prepared to face the anxiety of intermittent employment and rejections when auditioning for work. For dancers, advancement takes the form of a growing reputation, more frequent work, bigger and better roles, and higher pay.

Job Outlook

Dancers face very keen competition for jobs. The number of applicants will continue to exceed the number of job openings, and only the most talented will find regular employment.

Employment of dancers is expected to grow about as fast as the average for all occupations through the year 2005 due to the public's continued interest in this form of artistic expression. Although jobs will arise each year due to increased demand, most job openings will occur as dancers leave the occupation and as dance companies search for and find outstanding talent.

The best job opportunities are expected to be with national dance companies because of the demand for performances outside of New York City. Opera companies will also provide some employment opportunities. Dance groups affiliated with colleges and universities and television and motion pictures will also offer some opportunities. Moreover, the growing popularity of dance in recent years has resulted in increased employment opportunities in teaching dance.

Earnings

Earnings of many professional dancers are governed by union contracts. Dancers in the major opera ballet, classical ballet, and modern dance corps belong to the American Guild of Musical Artists, Inc., AFL-CIO; those on live or videotaped television belong to the American Federation of Television and Radio Artists; those who perform in films and on TV belong to the Screen Actors Guild or the Screen Extras Guild; and those in musical comedies are members of Actors' Equity Association. The unions and producers sign basic agreements specifying minimum salary rates, hours of work, benefits, and other conditions of employment. However, the separate contract each dancer signs with the producer of the show may be more favorable than the basic agreement.

For 1993-94, the minimum weekly salary for dancers in ballet and modern productions was \$587. For new first year dancers being paid for single performances, the basic rate was \$242 per performance and \$71 per rehearsal hour. Dancers on tour received an additional allowance for room and board. The minimum performance rate for dancers in theatrical motion pictures was \$99 per day of filming. The normal workweek is 30 hours including rehearsals and matinee and evening performances. Extra compensation is paid for additional hours worked.

Earnings of choreographers vary greatly. Earnings from fees and performance royalties range from about \$970 a week in small professional theaters, to over \$30,000 for a 8 to 10 week rehearsal period for a Broadway production. In high budget films, choreographers make \$3,000 for a 5-day week; in television, \$7,500 to \$10,000 for up to 14 work days.

Earnings from dancing are generally low because dancers' employment is irregular. They often must supplement their income by taking temporary jobs unrelated to dancing.

Dancers covered by union contracts are entitled to some paid sick leave, paid vacations, and various health and pension benefits—extended sick pay, child birth provisions—provided by their unions. Employers contribute toward these benefits. Most other dancers do not receive any benefits.

Related Occupations

Other occupations require the dancer's knowledge of conveying ideas through physical motion. These include ice skaters, dance critics, dance instructors, dance notators, and dance therapists. Athletes in most sports also need the same strength, flexibility, agility, and body control.

Sources of Additional Information

For information on purchasing directories about colleges and universities that teach dance, including details on the types of courses offered, and scholarships, write to:

☞ National Dance Association, 1900 Association Dr., Reston, VA 22091; or call 1-800-321-0789.

A directory of dance, art and design, music, and theater programs may be purchased from:

☞ National Association of Schools of Dance, 11250 Roger Bacon Dr., Suite 21, Reston, VA 22090.

For information on all aspects of dance, including job listings, send a self-addressed stamped envelope to:

American Dance Guild, 31 West 21st St., Third Floor, New York, NY 10010.

A directory of dance companies and related organizations, plus other information on professional dance, is available from:

Dance/USA, 777 14th St. NW., Suite 540, Washington, DC 20005.

Designers

(D.O.T. 141.051, .061, and .067; 142 except .051-010 and .061-030)

Nature of the Work

Designers organize and design articles, products, and materials in such a way that they not only serve the purpose for which they were intended but are visually pleasing as well. Pleasant surroundings, beautiful clothes, and floral arrangements can boost our spirits, and products and packaging that are eye catching are more likely to attract buyers than those that are not.

Many designers specialize in one particular area of design—for example, automobiles, clothing, furniture, home appliances, industrial equipment, interiors of homes and office buildings, exhibits, movie and theater sets, packaging, or floral arrangements. Others, work in more than one design field. In developing a new design or altering an existing one, designers first determine the needs of their clients and potential users. Then they consider the size, shape, weight, color, materials used, and the way the product functions, as well as ease of use and maintenance, safety, and cost of the design. Designers may compare similar or competitive products. They take into account, and often set, style and fashion trends. Designers usually develop, by hand or with the aid of a computer, sketches of several design concepts which they present for final selection to a client, an art or design director, a product development team, or producer of a play, film, or television production. The designer then makes a model, a prototype, or detailed plans drawn to scale. Designers in some specialties are increasingly using computer-aided design (CAD) tools to create and better visualize a final product. Computers greatly reduce the cost and time necessary to create a model or prototype, which gives a real idea of what the product will look like. Industrial designers use computer-aided industrial design (CAID) to create designs and to communicate them to automated production tools.

Designers may supervise craft workers who carry out their designs. Those who run their own businesses also may devote a considerable amount of time to developing new business contacts and to administrative tasks such as reviewing catalogs and ordering samples.

Design is not one but a number of different fields. *Industrial designers* develop and design countless manufactured products like cars, home appliances, children's toys, computer equipment, and medical, office, or recreational equipment. They combine artistic talent with research on product use, marketing, materials, and production methods to create the most functional and appealing design and to make the product competitive with others in the marketplace.

Furniture designers design furniture for manufacture, according to knowledge of design trends, competitors' products, production costs, capability of production facilities, and characteristics of a company's market. In order to facilitate the construction of the furniture they may design and prepare detailed drawings of fixtures, forms, or tools required to be used in production. They may also design custom pieces or styles according to a specific period or country. They must be strongly involved with the fashion industry and must be aware of current trends and styles.

Interior designers both plan the space and furnish the interiors of private homes, public buildings, and commercial establishments such as offices, restaurants, hospitals hotels, and theaters. They also may plan additions and renovations. With a client's tastes, needs and budget in mind, they develop designs and prepare working drawings and specifications for interior construction, furnishings,

lighting, and finishes. Increasingly designers use computers to generate layout plans that can be easily changed to include input received from the client. They also design lighting and architectural details such as crown molding, coordinate colors, and select furniture, floor coverings, and curtains. Interior designers must design the space in accordance with Federal, State, and local building codes. Increasingly, they plan spaces that meet accessibility standards for the disabled and elderly.

Set designers design movie, television, and theater sets. They study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

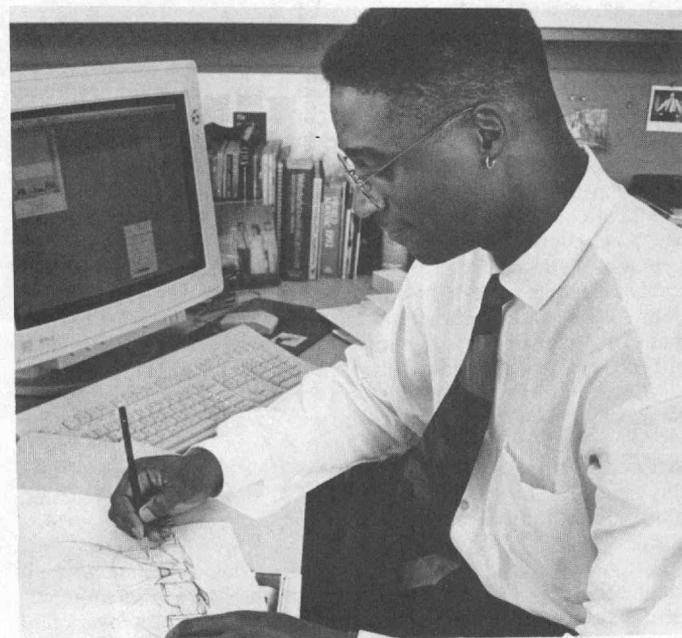
Fashion designers design clothing and accessories. Some high-fashion designers are self-employed and design for individual clients. They make fashion news by establishing the "line," colors, and kinds of materials that will be worn each season. Other high-fashion designers cater to specialty stores or high-fashion department stores. They design original garments as well as follow the established fashion trends. Most fashion designers, however, work for apparel manufacturers, adapting men's, women's, and children's fashions for the mass market.

Textile designers design fabrics for garments, upholstery, rugs, and other products, using their knowledge of textile materials and fashion trends. Computers are widely used in pattern design and grading. In the future, intelligent pattern engineering (IPE) systems will enable even greater automation in generating patterns.

Floral designers cut and arrange fresh, dried, or artificial flowers and foliage into designs to express the sentiments of the customer. They trim flowers and arrange bouquets, sprays, wreaths, dish gardens, and terrariums. They usually work from a written order indicating the occasion, customer preference for color and type of flower, price, and the date, time, and place the floral arrangement or plant is to be delivered. The variety of duties performed by a floral designer depends on the size of the shop and the number of designers employed. In a small operation, the floral designer may own the shop and do almost everything from growing flowers to keeping books.

Working Conditions

Working conditions and places of employment vary. Designers employed by manufacturing establishments or design firms generally work regular hours in well-lighted and comfortable settings. Self-employed designers tend to work longer hours—especially at first,



Designers must have artistic ability in addition to knowledge of computers and their applications.

when they are trying to establish themselves and cannot afford to hire assistants or clerical help.

Designers frequently adjust their workday to suit their clients, meeting with them evenings or on weekends when necessary. They may transact business in their own offices, clients' homes or offices, or may travel to other locations such as showrooms or manufacturing facilities.

Industrial designers usually work regular hours but occasionally work overtime to meet deadlines. In contrast, set designers, especially those in television broadcasting, often work long and irregular hours. The pace of television production is very fast, and set designers are often under pressure to make rapid changes in the sets. Fashion designers who work in the apparel industry usually have regular hours. During production deadlines or before fashion shows, however, they may be required to put in overtime. In addition, fashion designers may be required to travel to production sites overseas and across the United States. Interior designers generally work under deadlines and often work overtime to finish a job. Floral designers usually work regular hours in a pleasant work environment, except during the holidays when overtime may be required.

All designers face frustration at times when their designs are rejected or when they cannot be as creative as they would like. Independent consultants, who are paid by the assignment, are under pressure to please clients and to find new ones to maintain their incomes.

Employment

Designers held about 302,000 jobs in 1992. About one-third were self-employed, a much higher proportion than in most occupations.

Salaried designers are found in a number of different industries, depending on their design specialty. Most industrial designers, for example, work for consulting firms or for large corporations. Interior designers usually work for design or architectural firms, department stores and home furnishing stores, or hotel and restaurant chains. Many do freelance work—full time, part time, or in addition to a salaried job.

Set designers work for theater companies and film and television production companies. Fashion designers generally work for textile, apparel, and pattern manufacturers, or for fashion salons, high-fashion department stores, and specialty shops. Some work in the entertainment industry, designing costumes for theater, dance, television, and movies. Most floral designers work for retail flower shops but growing numbers work in floral departments of grocery stores.

Training, Other Qualifications, and Advancement

Creativity is crucial in all design occupations. People in this field must have a strong sense of color, an eye for detail, a sense of balance and proportion, and sensitivity to beauty. Sketching ability is especially important for fashion designers. A good portfolio—a collection of examples of a person's best work—is often the deciding factor in landing a job. However, formal preparation in design is important in all fields with the exception of floral design.

Educational requirements for entry level positions vary. Some design occupations, notably industrial design, require a bachelor's degree. Interior designers also generally need a college education, preferably a bachelor of arts or a bachelor of applied arts degree. Few clients—especially commercial clients—are willing to entrust responsibility for designing living and working space to a designer with no formal credentials. Interior designers must also be knowledgeable about Federal, State, and local codes, and toxicity and flammability standards for furniture and furnishings.

In fashion design, some formal career preparation, such as a 2-year or 4-year degree, is almost always needed to land a job. Employers seek individuals who are knowledgeable about textiles, fabrics, and ornamentation as well as about trends in the fashion world.

In contrast to the other design occupations, a high school diploma ordinarily suffices for floral design jobs. Most floral designers learn their skills on the job. When they hire trainees, employers generally look for high school graduates who have a flair for color and a desire to learn. However, completion of formal training is an asset for floral designers, particularly for advancement to the lead floral

designer level. Vocational and technical schools offer programs in floral design that usually last less than a year, while 2- and 4-year programs in floriculture, horticulture, floral design, or ornamental horticulture are offered by community and junior colleges, and colleges and universities.

Formal training for some design professions is also available in 2- and 3-year professional schools which award certificates or associate degrees in design. Graduates of 2-year programs generally qualify as assistants to designers. Four-year colleges and universities grant the Bachelor of Fine Arts degree. The curriculum in these schools includes art and art history, principles of design, designing and sketching, and specialized studies for each of the individual design disciplines such as garment construction, textiles, mechanical and architectural drawing, computerized design, sculpture, architecture, marketing, psychology, and basic engineering. A liberal arts education with courses in merchandising and business administration along with training in art is also a good background for most design fields, excluding industrial design. Persons with training or experience in architecture also qualify for some design occupations, particularly interior design.

Computer-aided design (CAD) courses are very useful. CAD is used in many design areas, particularly in industrial design, and many employers expect new designers to be familiar with the use of the computer as a design tool. Computers are used extensively in the aerospace, automotive, and electronics industries, and are becoming more popular in the other design fields as well. For example, interior designers are using computers to create numerous versions of space designs. Images can be inserted, edited, or replaced—making it possible for a client to see and choose among several designs. In furniture design, a chair's basic shape and structure may be duplicated and updated by applying new upholstery styles and fabrics with the use of computers.

In 1993, the National Association of Schools of Art and Design accredited 179 post-secondary institutions with programs in art and design. Most of these schools award a degree in art. Some award degrees in industrial design, interior design, textile design, graphic design, or fashion design. Many schools do not allow formal entry into a bachelor's degree program until a student has successfully finished a year of basic art and design courses. Applicants may be required to submit sketches and other examples of their artistic ability.

The Foundation for Interior Design Education Research accredits interior design programs and schools. Currently, there are 105 accredited programs in the United States and Canada located in schools of art, architecture, and home economics.

People in the design field must be creative, imaginative, persistent, and able to communicate their ideas both visually and verbally. Because tastes in style and fashion can change quickly, designers need to be open to new ideas and influences. Problem-solving skills and the ability to work independently are important traits. People in this field need self-discipline to start projects on their own, and to budget their time in order to meet deadlines and production schedules. Business sense and sales ability are important for those who are freelancers or run their own businesses.

Beginning designers usually receive on-the-job training and normally need 1 to 3 years of training before they advance to higher level positions. Experienced designers in large firms may advance to chief designer, design department head, or other supervisory positions. Some experienced designers open their own firms.

Interior design is the only design field subject to government regulation: The District of Columbia licenses interior designers, and 18 States regulate use of the title. While licensing is the exception rather than the rule, membership in a professional association is universally recognized as a mark of achievement for designers. Professional membership usually requires the completion of 3 or 4 years of post-secondary education in design, at least 2 years of practical experience in the field, and completion of the National Council for Interior Design Qualification examination.

Job Outlook

Employment in design occupations is expected to grow about as fast as the average for all occupations through the year 2005. In addition, many openings will result from the need to replace those who leave the field.

Continued emphasis on product quality and safety; on design of new products that are easy and comfortable to use; on high-technology products in medicine, transportation, and other fields; and increasing global competition among businesses should stimulate the demand for industrial designers. Floral design should experience healthy growth with the addition of floral departments in many grocery stores. Growth in population and in personal incomes is expected to encourage increased demand for fashion designers, set designers, and textile designers.

Designers in most fields—with the exception of floral and furniture design—can expect to face competition throughout their careers. Many talented individuals are attracted to careers as designers—among them, graduates of prestigious design schools. In light of the abundant supply, individuals with no formal education in design, and without the necessary personal traits—particularly creativity and perseverance—may find it very difficult to establish and maintain a career in design.

While most areas of design are highly competitive, this is not the case in floral design. Relatively low pay and limited opportunities for advancement restrict the supply of suitable applicants. As a result, finding a job as a floral designer should be relatively easy. Opportunities should also be good for qualified persons in specialized fields, such as furniture design.

Earnings

Median weekly earnings of experienced full-time designers in all fields of design were about \$585 in 1992. The middle 50 percent earned between \$375 and \$855 a week. The bottom 10 percent earned less than \$260, and the top 10 percent earned more than \$1,120.

Earnings of floral designers were lower than most types of designers. According to a survey conducted by Floral Finance Inc., beginning floral designers had average earnings of approximately \$5.40 an hour in 1993. Designers with 1 to 3 years of experience earned \$6.30, while designers with over 3 years of experience averaged \$7.60. Managers had average earnings of about \$9.40 an hour in 1992.

According to the Industrial Designers Society of America, the average base salary for an entry-level industrial designer with 1 to 2 years of experience was about \$27,900 in 1992. Staff designers with an average of 6 years of experience earned about \$38,100, while senior designers with an average of 10 years of experience earned about \$44,500. Industrial designers in managerial or executive positions earned substantially more—up to about \$75,000.

According to the 1993 Top and Second 100 GIANTS surveys published by *Interior Design* magazine, salaries of junior interior designers in the largest interior design firms averaged \$25,000, project and senior interior designers averaged \$38,000, and project managers averaged \$50,500 a year.

Related Occupations

Workers in other occupations who design or arrange objects, materials, or interiors to improve their appearance and function include visual artists, architects, landscape architects, engineers, photographers, and merchandise displayers.

Sources of Additional Information

For a list of accredited schools of art and design, contact:

☞ National Association of Schools of Art and Design, 11250 Roger Bacon Dr., Suite 21, Reston, VA 22090.

A brochure that describes careers in industrial design and lists academic programs in the field is available from the Industrial Designers Society of America. For price and ordering information, write to:

☞ Industrial Designers Society of America, 1142-E Walker Rd., Great Falls, VA 22066.

For information about careers in interior design, contact:

☞ American Society for Interior Designers, 608 Massachusetts Ave. NE., Washington, DC 20002-6006.

For a list of accredited programs in interior design, contact:

☞ Foundation for Interior Design Education Research, 60 Monroe Center NW., Grand Rapids, MI 49503.

For information about careers in floral design, contact:

☞ Society of American Florists, 1601 Duke St., Alexandria, VA 22314.

For a list of schools with accredited programs in furniture design, contact:

☞ American Society of Furniture Designers, P.O. Box 2688, High Point, NC 27261.

Landscape Architects

(D.O.T. 001.061-018)

Nature of the Work

Everyone enjoys attractively designed residential areas, public parks, college campuses, shopping centers, golf courses, parkways, and industrial parks. Landscape architects design these areas so that they are not only functional but beautiful and compatible with the natural environment as well. They may plan the location of buildings, roads, and walkways and the arrangement of flowers, shrubs, and trees. They also may redesign streets to limit automobile traffic and to improve pedestrian access and safety. Natural resource conservation and historic preservation are other important objectives to which landscape architects may apply their knowledge of the environment as well as their design and artistic talents.

Landscape architects are hired by many types of organizations—from real estate development firms starting new projects to municipalities constructing airports or parks. They are often involved with the development of a site from its conception. Working with architects and engineers, they help determine the best arrangement of roads and buildings. Once these decisions are made, landscape architects create detailed plans indicating new topography, vegetation, walkways, and landscape amenities.

In planning a site, landscape architects first consider the nature and purpose of the project and the funds available. They analyze the natural elements of the site, such as the climate, soil, slope of the land, drainage, and vegetation. They observe where sunlight falls on the site at different times of the day and examine the site from various angles. They assess the effect of existing buildings, roads, walkways, and utilities on the project.

After studying and analyzing the site, they prepare a preliminary design. To account for the needs of the client as well as the conditions at the site, they may have to make many changes before a final design is approved. An increasing number of landscape architects are using computer-aided design (CAD) systems to assist them in preparing their designs. Many landscape architects are also using video simulation as a tool to help clients envision the landscape architects' ideas.

Throughout all phases of the design, landscape architects consult with other professionals involved in the project. Once the design is complete, they prepare a proposal for the client. They draw up detailed plans of the site, including written reports, sketches, models, photographs, land-use studies, and cost estimates, and submit them for approval by the client and by regulatory agencies. If the plans are approved, landscape architects prepare working drawings showing all existing and proposed features. They also outline in detail the methods of construction and draw up a list of necessary materials.

Although many landscape architects supervise the installation of their design, some are involved in the construction of the site. However, this usually is done by the developer or contractor.

Some landscape architects work on a wide variety of projects. Others specialize in a particular area, such as residential development, historic landscape restoration, waterfront improvement projects, parks and playgrounds, or shopping centers. Still others work in regional planning and resource management; feasibility, environmental impact, and cost studies; or site construction. Some landscape architects teach at the college or university level.

Although most landscape architects do at least some residential work, relatively few limit their practice to landscape design for individual homeowners because most residential landscape design projects are too small to provide suitable income compared with larger commercial or multiunit residential projects. Some nurseries offer residential landscape design services, but these services often are performed by lesser qualified landscape designers or others with training and experience in related areas.

Landscape architects who work for government agencies do similar work at national parks, government buildings, and other government-owned facilities. In addition, they may prepare environmental impact statements and studies on environmental issues such as public land-use planning.

Working Conditions

Landscape architects spend most of their time in offices creating plans and designs, preparing models and cost estimates, doing research, or attending meetings. The remainder of their time is spent at the site. Before the project is actually begun, landscape architects analyze the site. During the design and planning stage, they may visit the site to verify that the design can be incorporated into the landscape. After the plans and specifications are completed, they spend time at the site observing or supervising the construction. Those who work in large firms may spend considerably more time out of the office because of travel to sites outside the local area.

Salaried employees in both government and landscape architectural firms usually work regular hours, although they may work overtime to meet a project deadline. Hours of self-employed landscape architects may vary.

Employment

Landscape architects held about 19,000 jobs in 1992. Three-fifths worked for firms that provide landscape architecture services. Most of the rest were employed by architectural firms. The Federal Government also employs these workers; most were found in the U.S. Departments of Agriculture, Defense, and the Interior. About 1 of every 6 landscape architects was self-employed.

Most employment for landscape architects is concentrated in urban and suburban areas in all parts of the country. Some landscape architects work in rural areas, particularly those in the Federal Government who plan and design parks and recreation areas.

Training, Other Qualifications, and Advancement

A bachelor's or master's degree in landscape architecture is usually necessary for entry into the profession. The bachelor's degree in landscape architecture takes 4 or 5 years to complete. There are two types of master's degree programs. The master's degree as a first professional degree is a 3-year program designed for students with an undergraduate degree in another discipline; this is the most common type. The master's degree as the second professional degree is a 2-year program for students who have a bachelor's degree in landscape architecture and wish to demonstrate mastery or specialize in some aspect of landscape architecture.

In 1992, approximately 50 colleges and universities offered 65 undergraduate and graduate programs in landscape architecture that were accredited by the Landscape Architecture Accreditation Board of the American Society of Landscape Architects.



A landscape architect prepares final working drawings after a design is approved.

College courses required in this field usually include technical subjects such as surveying, landscape design and construction, landscape ecology, structural design, and city and regional planning. Other courses include history of landscape architecture, plant and soil science, geology, design and color theory, and general management. In addition, most students at the undergraduate level take a year of prerequisite courses such as English, mathematics, and social and physical science. The design studio is an important aspect of many landscape architecture curriculums. Whenever possible, students are assigned real projects to work on, providing them with valuable hands-on experience. While working on real projects, students may become more proficient in the use of technologies such as computer-aided design, geographic information systems, and video simulation.

Forty-four States require landscape architects to be licensed. Licensing is based on the Landscape Architect Registration Examination (L.A.R.E.), sponsored by the Council of Landscape Architectural Registration Boards. Admission to the exam usually requires a degree from an accredited school plus 1 to 4 years of work experience, although standards vary from State to State. Nineteen States require additional examinations focusing on laws and/or plant materials indigenous to their State.

Because States' requirements for licensure are not uniform, landscape architects may not find it easy to transfer their registration to another State to practice. However, those who meet the national standard of graduating from an accredited program, serving 3 years of internship under the supervision of a registered landscape architect, and passing of the L.A.R.E. can satisfy requirements in most States.

In the Federal Government, candidates for entry positions should have a bachelor's or master's degree in landscape architecture. The Federal Government does not require its landscape architects to be licensed.

Persons planning a career in landscape architecture should appreciate nature and enjoy working with their hands. Although creativity and artistic talent are also desirable qualities, they are not absolutely essential to success as a landscape architect. High school courses in mechanical or geometric drawing, art, botany, and mathematics are helpful. Good oral communication skills are important, because these workers must be able to convey their ideas to other professionals and to clients and to make presentations before large groups. Those interested in starting their own firm should be skilled in small business management.

In States where licensure is required, new hires are technically called intern landscape architects until they become licensed. Intern landscape architects' duties vary depending on the type and size of employing firm. They may do project research or prepare base maps of the area to be landscaped, while some are allowed to participate in the actual design of a project. However, interns must perform all work under the supervision of a licensed landscape architect. Additionally, all drawings and specifications must be signed and/or sealed by the licensed landscape architect, who takes legal responsibility for the work. After gaining experience and becoming licensed, landscape architects usually can carry a design through all stages of development. After several years, they may become associates, and eventually they may become partners in a firm or open their own offices.

Job Outlook

Employment of landscape architects is expected to increase about as fast as the average for all occupations through the year 2005. The level of new construction plays an important role in determining demand for landscape architects. Anticipated growth in construction is expected to increase demand for landscape architectural services over the long run. An increasing proportion of office and other commercial and industrial development will occur outside cities. These projects are typically located on larger sites with more surrounding land which needs to be designed, in contrast to urban development, which often includes little or no surrounding land. Also, as the cost of land increases, the importance of good site planning and landscape design increases. Because employment is linked to new construction, however, landscape architects may face layoffs and competition for jobs when real estate sales and construction slow down, such as during a recession.

Increased development of open space into recreation areas, wildlife refuges, and parks will also require the skills of landscape architects. Continued concern for the environment should stimulate employment growth because of the need to design development projects which best fit in with the surrounding environment.

In addition to the work related to new development and construction, landscape architects are expected to be involved in historic preservation, local, city, and regional planning, land reclamation, and refurbishment of existing sites.

Although landscape architects are increasingly using computer-aided design and other technologies, employment is not expected to be affected because these technologies will be used to create more and better designs rather than reduce the demand for landscape architects.

In addition to new openings due to job growth, nearly as many openings are expected to result from the need to replace landscape architects who retire or leave the labor force for other reasons.

Earnings

According to the limited data available, graduates with a bachelor's degree in landscape architecture started at about \$20,400 in 1992; those with a master's degree started at about \$30,600. Although salaries for experienced landscape architects vary by location and experience, the median salary for all landscape architects was about \$41,900 in 1992. Those who are partners in well-established firms may earn much more than their salaried employees, but their incomes may fluctuate with changing business conditions. In 1993, the average annual salary for all landscape architects in the Federal Government in nonsupervisory, supervisory, and managerial positions was \$46,855.

Because many landscape architects work for small firms or are self-employed, benefits tend to be less generous than those of other workers with similar skills who work for large organizations. With the exception of those who are self-employed, however, most landscape architects receive health insurance, paid vacations, and sick leave.

Related Occupations

Landscape architects use their knowledge of design, construction, and land-use planning to develop a landscape project. Others whose work requires similar skills are architects, interior designers, civil engineers, and urban and regional planners. Landscape architects also know how to grow and use plants in the landscape. Botanists, who study plants in general, and horticulturists, who study ornamental plants as well as fruit, vegetable, greenhouse, and nursery crops, do similar work.

Sources of Additional Information

Additional information, including a list of colleges and universities offering accredited programs in landscape architecture, is available from:

☞ American Society of Landscape Architects, 4401 Connecticut Ave. NW., Washington, DC 20008.

General information on registration or licensing requirements is available from:

☞ Council of Landscape Architectural Registration Boards, 12700 Fair Lakes Circle, Suite 110, Fairfax, VA 22033.

Musicians

(D.O.T. 152 except .021)

Nature of the Work

Musicians may play musical instruments, sing, write musical compositions, or conduct groups in instrumental or vocal performances. Musicians may perform alone or as part of a group, before live audiences or on radio, or in studios for recording, TV, or movie productions.

Instrumental musicians play a musical instrument in an orchestra, band, rock group, or jazz "combo." Musicians may play any

of a wide variety of string, brass, woodwind, or percussion instruments. For example, they may play the violin, trumpet, trombone, saxophone, clarinet, flute, organ, one of the "rhythm" instruments—the piano, string bass, drums, and guitar—or one of the many electronic synthesizers.

Singers interpret music using their knowledge of voice production, melody, and harmony. They sing character parts or perform in their own individual styles. Singers are often classified according to their voice range—soprano, contralto, tenor, baritone, or bass—or by the type of music they sing, such as opera, rock, reggae, folk, or country and western.

Composers create original music such as symphonies, operas, sonatas, or popular songs or raps. They transcribe ideas into musical notation using harmony, rhythm, melody, and tonal structure. Many songwriters now compose and edit music using computers. Some even have a musical keyboard linked to a computer which compiles the digital information into musical notation while they play. Also, they may program the composition in musical notation into the computer, which can play back the piece.

Orchestra conductors lead orchestras and bands. They audition and select musicians, choose the music to be performed, and direct rehearsals and performances. They apply conducting techniques to achieve desired musical effects.

Choral directors conduct choirs and glee clubs. They audition and select singers and direct them at rehearsals and performances to achieve harmony, rhythm, tempo, shading, and other desired musical effects.

All musicians spend a considerable amount of time practicing. Those who play current music listen to recordings and copy the sound, since sheet music may not be available.

Working Conditions

Musicians often perform at night and on weekends and spend considerable time in practice and rehearsal. Performances frequently require travel. Because many musicians find only part-time work or experience unemployment between engagements, they often supplement their income with other types of jobs. In fact, many decide they can not support themselves as musicians and take permanent, full-time jobs in other occupations, while working only part time as musicians.

Employment

An average of about 236,000 musicians held jobs in 1992. Many were between engagements, so that the total number of people employed as musicians during the course of the year might have been greater. Over half of the musicians employed in 1992 worked part time; over one-third were self-employed.

Many work in cities in which entertainment and recording activities are concentrated, such as New York, Los Angeles, and Nashville. Classical musicians may perform with professional orchestras



Musicians may have to travel frequently to perform.

or in small chamber music groups like quartets or trios. Musicians may work in opera, musical comedy, and ballet productions. Many are organists who play in churches and synagogues—6 out of 10 musicians who are paid a wage or salary work in religious organizations. Musicians also perform in clubs and restaurants, and for weddings and other events. Well-known musicians and groups give their own concerts, appear on “live” radio and television, make recordings and music videos, or go on concert tours. The Armed Forces, too, offer careers in their bands and smaller musical groups.

Training, Other Qualifications, and Advancement

Many people who become professional musicians begin studying an instrument at an early age. They may gain valuable experience playing in a school or community band or orchestra, or in a “combo” with a group of friends. Singers usually start training when their voices mature. Participation in school musicals or in a choir often provides good early training. Musicians need extensive and prolonged training to acquire the necessary skill, knowledge, and ability to interpret music. This training may be obtained through private study with an accomplished musician, in a college or university music program, in a music conservatory, or through practice with a group. For study in an institution, an audition frequently is necessary. Formal courses include musical theory, music interpretation, composition, conducting, and instrumental and voice instruction. Composers, conductors, and arrangers need advanced training in these subjects as well.

Many colleges, universities, and music conservatories grant bachelor's or higher degrees in music. Many also grant degrees in music education to qualify graduates for a State certificate to teach music in an elementary or secondary school.

Those who perform popular music must have an understanding of and feeling for the style of music that interests them, but classical training can expand their employment opportunities, as well as their musical abilities. Although voice training is an asset for singers of popular music, many with untrained voices have successful careers. As a rule, musicians take lessons with private teachers when young, and seize every opportunity to make amateur or professional appearances.

Young persons who are considering careers in music should have musical talent, versatility, creative ability, and poise and stage presence to face large audiences. Since quality performance requires constant study and practice, self-discipline is vital. Moreover, musicians who play concert and nightclub engagements must have physical stamina because frequent travel and night performances are required. They must also be prepared to face the anxiety of intermittent employment and rejections when auditioning for work.

Advancement for musicians generally means becoming better known and performing for greater earnings with better known bands and orchestras. Many musicians rely on agents or managers to find them performing engagements, negotiate contracts, and plan their careers.

Job Outlook

Employment of musicians is expected to grow about as fast as the average for all occupations through the year 2005. Most job openings will arise from the need to replace the many musicians who leave the field each year because they are unable to make a living solely as musicians. Competition for musician jobs is tough, and talent is no guarantee of success. However, being able to play several instruments and types of music enhances the opportunity to find employment.

Although the total number of musician jobs is expected to increase, employment in restaurants and bars is expected to decline. The fastest growing segment of restaurants is the moderately priced, family dining restaurants, which seldom provide live entertainment to their customers. Bars, which regularly employ musicians, are expected to grow more slowly than eating establishments because consumption of alcoholic beverages outside of the home is expected to continue to decline.

Earnings

Earnings often depend on a performer's professional reputation as well as on geographic location—and on the number of hours worked.

According to the American Federation of Musicians, minimum salaries in major orchestras ranged from about \$1,000 to \$1,400 per week during the 1993-94 performing season. The season of these top orchestras ranged from 48 to 52 weeks, with most being 52 weeks. In regional orchestras, the minimum salaries were between \$400 and \$700 per week, and the seasons lasted 25 to 38 weeks, with an average of 30 weeks. Community orchestras, however, had more limited levels of funding and offered salaries that were much lower for seasons of shorter duration.

In 1993, musicians employed in motion picture or television recording and those employed by recording companies were paid a minimum of about \$226 and \$249, respectively, for a 3-hour session.

Although a few opera soloists and popular singers earned thousands of dollars per performance, the minimum daily wage rate for a principal singer on network or syndicated television was \$485 in 1993.

Musicians employed by some symphony orchestras work under master wage agreements, which guarantee a season's work up to 52 weeks. Many other musicians may face relatively long periods of unemployment between jobs. Even when employed, however, many work part time. Thus, their earnings generally are lower than those in many other occupations. Moreover, since they may not work steadily for one employer, some performers cannot qualify for unemployment compensation, and few have either sick leave or vacations with pay. For these reasons, many musicians give private lessons or take jobs unrelated to music to supplement their earnings as performers.

Many musicians belong to a local of the American Federation of Musicians. Professional singers usually belong to a branch of the Associated Actors and Artists of America.

Related Occupations

There are many music-related occupations. These include librettists, songwriters, arrangers, and music therapists. A large number of music teachers work in elementary and secondary schools, music conservatories, and colleges and universities, or are self-employed. Many who teach music also perform.

Technical knowledge of musical instruments is required by instrument repairers, tuners, and copyists. In addition, there are a number of occupations in the business side of music such as booking agents, concert managers, music publishers, and music store owners and managers, as well as salespersons of records, sheet music, and musical instruments. Others whose work involves music include disc jockeys, music critics, sound and audio technicians, music librarians, and radio and TV announcers.

Sources of Additional Information

For a directory of accredited programs in music teacher education, contact:

☞ National Association of Schools of Music, 11250 Roger Bacon Dr., Suite 21, Reston, VA 22091.

Photographers and Camera Operators

(D.O.T. 143)

Nature of the Work

The job of a photographer or camera operator is to accurately or artistically portray people, places, and events. Skillful photographers capture the special feeling or mood that sells products, highlights news stories, and brings back memories.

Photographers and camera operators all use the same basic equipment, a camera. Camera operators generally use 35- or 16-millimeter cameras or camcorders to film commercial motion pictures and documentary or industrial films. They also make films for television

news, and film private ceremonies and special events. Some camera operators have begun offering their services to the general public by recording important events, and renting out their equipment.

Photographers use a wide variety of cameras that can accept lenses designed for close-up, medium-range, or distance photography. These cameras also offer adjustments that allow the photographer creative and technical control over the picture-taking process. In addition to cameras and film, photographers and camera operators use an array of equipment—from filters, tripods, and flash attachments to specially constructed motorized vehicles and special lighting. Photography increasingly involves the use of computers. Photographers take the picture, then it is scanned by a computer and manipulated to create the desired effect. The images are stored on a compact disk (CD) in the same way that music is stored on a CD. Currently, photographers primarily use this technology to create an electronic portfolio. However, due to poor image quality and high cost, this technology has not been widely adopted.

Taking quality pictures and movies requires technical expertise and creativity. For example, photographers and camera operators may enhance the subject's appearance with lighting or by drawing attention to a particular aspect by blurring out the background. Composing a picture includes choosing a subject, presenting a subject to achieve a particular effect, and selecting equipment to accomplish the desired goal. By creatively applying the technical aspects of light, lens, film, filters, and camera settings, photographers and camera operators produce pictures that capture a mood or tell a story.

Many photographers develop and print their own photographs, especially photographs requiring special effects, and photographers may enlarge or otherwise alter the original image. Most, however, send their film to laboratories for processing. This is especially true for color film, which requires very expensive equipment and exacting conditions for processing and printing. (See the statement on photographic process workers elsewhere in the *Handbook*.)

Most photographers specialize in commercial, portrait, or journalistic photography. Some specialize in weddings or school photographs. Portrait photographers take pictures of individuals or groups of people and often work in their own studios. Portrait photographers who are small-business owners also arrange for advertising, schedule appointments, set and adjust equipment, develop and retouch negatives, and mount and frame pictures. They also hire and train employees, purchase supplies, keep records, and bill customers.

Some self-employed photographers sign with stock photo agencies. These agencies grant magazines and other customers the rights to an individual's photographs on a commission basis. Stock photo agencies require an application from photographers and a sizable portfolio. Once accepted, a large number of new submissions are required each year. Photographers frequently have their photos placed on CD's for this purpose. Additional photographs can be added later to the same CD.

Commercial, editorial, and industrial photographers take pictures of such subjects as manufactured articles, buildings, livestock, and groups of people. Their work is used in reports, advertisements, and catalogs. Industrial photographers take photographs or videotapes for use in analyzing engineering projects, for publicity, or as records of equipment and processes. Automobile manufacturers hire photographers every year to show off their new models. Companies use photographs in publications to report to stockholders or to advertise company products or services. This work frequently is done on-site.

Scientific photographers provide illustrations and documentation for scientific publications, research reports, and textbooks. They usually specialize in fields such as engineering, medicine, biology, or chemistry. Some use photographic or video equipment for use as a research tool. For example, biomedical photographers use photomicrography, photographs of small objects magnified many times to obtain information not visible under normal conditions, and time-lapse photography, where time is stretched or condensed. Biomedical photographers also take photographs of medical procedures such as surgery.

Photojournalists photograph newsworthy events, places, people, and things for publications in newspapers, journals, and magazines.

Photography also is an art medium. Some photographers sell their photographs as artwork, placing even greater emphasis on self-expression and creativity, in addition to technical proficiency. Unlike other specializations, however, very few photographers are successful enough to support themselves through this specialty.

Some camera operators work for local, network, and cable television stations. They cover news events as part of a reporting team. They also may capture and transmit live pictures to the television audience.

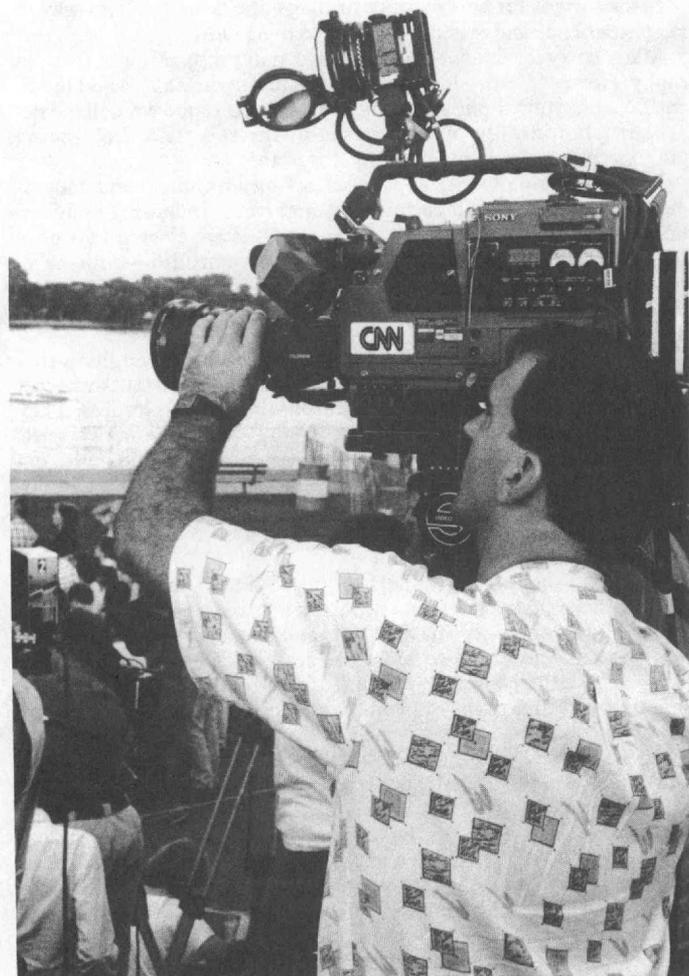
Camera operators employed in the entertainment field use motion picture cameras to film movies or electronically record movies, television programs, and commercials. Some camera operators specialize in filming cartoons or other optical effects for television and movies.

Working Conditions

Working conditions for photographers and camera operators vary considerably. Photographers in government, commercial studios, and advertising agencies usually work a 5-day, 35- to 40-hour week. Newspaper photographers and camera operators may work long and irregular hours and must be available on short notice.

Self-employment allows for a good deal of autonomy, flexible scheduling, and the possibility of working from one's own home. However, the continuing need to find new clients can be time consuming and stressful. Some photographers hire an assistant solely for this responsibility.

Portrait photographers often work in their own studios but may travel locally to take photographs in churches, synagogues, and homes. Press and commercial photographers and camera operators may frequently travel locally or overnight; some travel to distant



Photographers and camera operators frequently work outdoors.

places for long periods of time. Their work may put them in uncomfortable or even dangerous surroundings. This is especially true for photojournalists assigned to cover natural disasters or military conflicts.

Photographers and camera operators may work long hours in a cramped and smelly darkroom or stand and walk for long periods while carrying heavy equipment. Also, photographers often work under severe time restrictions to meet deadlines and satisfy customers.

Employment

Photographers and camera operators held about 118,000 jobs in 1992. About 4 out of 10 were self-employed, a much higher proportion than the average for all occupations. Some photographers contract with advertising agencies, magazines, or others to do individual projects, while others operate portrait studios or provide photographs to stock photo agencies.

Most salaried photographers work in portrait or commercial photography studios. Others are with newspapers, magazines, advertising agencies, and government agencies. Most camera operators are employed in television broadcasting or in motion picture studios; few are self-employed. Most photographers and camera operators work in metropolitan areas.

Training, Other Qualifications, and Advancement

There is no one best way to enter the occupation. Determination often is as much the key to success as are creativity, skill, and formal preparation. Students should subscribe to photographic newsletters and magazines, join camera clubs, and find work in camera stores or photo studios. Individuals also should decide on an area of interest and specialize in it. Completing an internship, through summer or part-time work, for a newspaper or magazine is an excellent way to gain experience and eventually entry to this field.

Many entry level jobs require little formal preparation in photography. However, entry level positions in photojournalism and in scientific or technical photography are likely to require a college degree in photography with courses in the scientific field being photographed—biology or botany, for example.

Employers usually seek applicants having a technical understanding of photography and certain personal traits, including imagination, creativity, and reliability. Business skills are essential for photographers planning on opening their own studio—courses in accounting and marketing are recommended. Technical expertise can be obtained through practical experience and postsecondary education.

Camera operators generally acquire their skills through on-the-job training. Photography and cinematography assistants may set up lights and cameras or help a photographer take pictures. They also may receive routine assignments requiring few camera adjustments or decisions on what subject matter to photograph. With experience, they may advance to more demanding assignments. Photography assistants may learn to mix chemicals, develop film, and print photographs, and can learn the skills vital to running their own business.

Many aspiring photographers—who wish to open their own studios—believe that talent alone will insure success. However, all professional photographers have talent, and success requires, in addition, the skills necessary to run a business. They must know how to bid for and write contracts, hire and direct models, acquire permission to use photographs of people, price photographs, and keep financial records. Some self-employed photographers attempt to enter the field by submitting unsolicited photographs to magazines with the hope of eventually contracting with them to shoot photographs for articles.

Universities, community and junior colleges, vocational-technical institutes, and private trade and technical schools offer courses in photography, often as part of a communications or journalism program. There are relatively few courses in cinematography. Most schools do not offer degrees in photography or cinematography.

Basic courses in photography cover equipment, processes, and techniques. Bachelor's degree programs provide a well-rounded education, including business courses. Art schools offer useful training

in design and composition, but may be weak in the technical aspects of photography.

Photographers and camera operators need good eyesight, artistic ability, and manual dexterity. They should be patient, accurate, and enjoy working with detail. They also should be able to work alone and with others, as photographers frequently deal with clients, graphic designers, and visual information specialists. Knowledge of mathematics, physics, and chemistry is helpful for understanding the workings of lenses, films, light sources, and developing processes. News photographers must be decisive in recognizing a potentially good photograph and acting quickly to have it published.

Commercial photographers must be imaginative and original. Portrait photographers need the ability to help people relax in front of the camera. Photojournalists must not only be good with a camera but also understand the story behind an event so that their pictures match the story. This requires journalistic skills and explains why employers increasingly look for individuals with a 4-year degree in photojournalism or journalism with an emphasis on photography.

Camera operators can become directors of photography for movie studios and television programs. Magazine and news photographers may head up graphic arts departments or become photography editors. Photographers and camera operators may become teachers and provide instruction in their own area of expertise.

Job Outlook

Photography, particularly commercial photography and photojournalism, is a highly competitive field. There are more people who want to be photographers than there is work to support them. Only the most skilled and those with the best business ability are able to find salaried positions or attract enough work to support themselves as self-employed photographers. Some become "weekenders," individuals with full-time jobs in other fields who take photographs of weddings and other special events on weekends.

Employment of photographers is expected to grow about as fast as the average for all occupations through the year 2005. Many additional job openings will arise as workers transfer to other occupations or stop working. The growing use of visual images in education, communication, entertainment, marketing, research and development, and other areas should spur demand for photographers. Demand for portrait photographers should increase as the population grows. Digital cameras, which use electronic memory rather than a film negative to record the image, are now available. However, these cameras are much more expensive than conventional cameras, and are not capable of producing an equally good image. As the technology improves and the price declines, however, these cameras may be more widely used, increasing demand for commercial photographers in particular.

Employment of camera operators also is expected to grow about as fast as the average for all occupations through the year 2005, with businesses making greater use of videos for training films, business meetings, sales campaigns, and public relations work. Expansion of the entertainment industry will create additional openings, but competition will be keen for what generally is regarded as an exciting field.

Earnings

The median annual earnings for salaried photographers and camera operators who worked full time were about \$21,200 in 1992. The middle 50 percent earned between \$16,500 and \$35,600. The top 10 percent earned more than \$49,200, while the lowest 10 percent earned less than \$12,300.

Photographers in the Federal Government averaged \$33,000 a year in 1992.

Some self-employed photographers earn more than salaried workers, but many do not. Their earnings are affected by the number of hours worked, their skills, their marketing ability, and general business conditions.

Unlike photojournalists and commercial photographers, very few artistic photographers are successful enough to support themselves solely through this specialty.

Related Occupations

Other jobs requiring visual arts talents include illustrators, designers, painters, sculptors, and editors.

Sources of Additional Information

Career information on photography is available from:

☞ Professional Photographers of America, Inc., 1090 Executive Way, Des Plaines, IL 60018.

For a list of self-help technical publications on photography and photographic processing, write to:

☞ Eastman Kodak, Kodak Information Center, Department 841, 343 State St., Rochester, NY 14650.

For a publication listing places to sell your photographs and instructions on how to do it, write to:

☞ F&W Publications, 1507 Dana Ave., Cincinnati, OH 45207.

For a publication describing standard business practices for commercial and stock photographers, write to:

☞ American Society of Media Photographers, Suite 502-14, Washington Rd., Princeton Junction, NJ 08550.

Lists of colleges and universities offering courses or a degree in photography may be found in directories of college programs, available in guidance offices, libraries, and large bookstores.

Public Relations Specialists

(D.O.T. 165.017, .167)

Nature of the Work

An organization's reputation, profitability, and even its continued existence can depend on the degree to which its goals and policies are supported by its targeted "publics." Public relations specialists serve as advocates for businesses, governments, universities, hospitals, schools, and other organizations, and strive to build and maintain positive relationships with the public. As managers recognize the growing importance of good public relations to the success of their organizations, they increasingly rely on public relations specialists for advice on strategy and policy.

Public relations specialists handle such functions as media, community, consumer, and governmental relations; political campaigns; interest-group representation; conflict mediation; or employee and investor relations. Public relations is not only "telling the organization's story," however. Understanding the attitudes and concerns of consumers, employees, and various other groups also is a vital part of the job. To improve communications, public relations specialists establish and maintain cooperative relationships with representatives of community, consumer, employee, and public interest groups and those in print and broadcast journalism.

Public relations specialists put together information that keeps the general public, interest groups, and stockholders aware of an organization's policies, activities, and accomplishments. Their work keeps management aware of public attitudes and concerns of the many groups and organizations with which it must deal.

Public relations specialists prepare press releases and contact people in the media who might print or broadcast their material. Many radio or television special reports, newspaper stories, and magazine articles start at the desks of public relations specialists. Sometimes the subject is an organization and its policies towards its employees or its role in the community. Often the subject is a public issue, such as health, nutrition, energy, or the environment.

Public relations specialists also arrange and conduct programs for contact between organization representatives and the public. For example, they set up speaking engagements and often prepare the speeches for company officials. These specialists represent employers at community projects; make film, slide, or other visual presentations at meetings and school assemblies; and plan conventions. In addition, they are responsible for preparing annual reports and writing proposals for various projects.

In government, public relations specialists—who may be called press secretaries, information officers, public affairs specialists, or

communications specialists—keep the public informed about the activities of government agencies and officials. For example, public affairs specialists in the Department of Energy keep the public informed about the proposed lease of offshore land for oil exploration. A press secretary for a member of Congress keeps constituents aware of their elected representative's accomplishments.

In large organizations, the director of public relations, who is often a vice president, may develop overall plans and policies with other executives. In addition, public relations departments employ public relations specialists to write, do research, prepare materials, maintain contacts, and respond to inquiries.

People who handle publicity for an individual or who direct public relations for a small organization may deal with all aspects of the job. They contact people, plan and do research, and prepare material for distribution. They may also handle advertising or sales promotion work to support marketing.

Working Conditions

Some public relations specialists work a standard 35- to 40-hour week, but unpaid overtime is common. In addition, schedules often have to be rearranged to meet deadlines, deliver speeches, attend meetings and community activities, and travel out of town. Occasionally they may have to be at the job or on call around the clock, especially if there is an emergency or crisis.

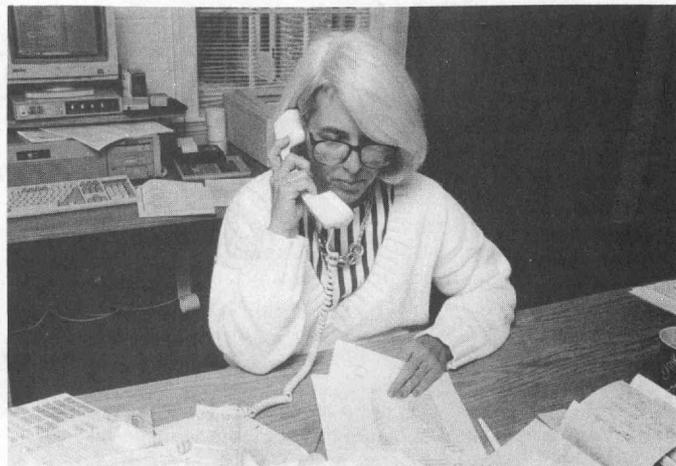
Employment

Public relations specialists held about 98,000 jobs in 1992. About two-thirds worked in services industries—management and public relations firms, educational institutions, membership organizations, hospitals, social service agencies, and advertising agencies, for example. Others worked for a wide range of employers, including manufacturing firms, financial institutions, and government agencies. Some were self-employed.

Public relations specialists are concentrated in large cities where press services and other communications facilities are readily available, and where many businesses and trade associations have their headquarters. Many public relations consulting firms, for example, are in New York, Los Angeles, Chicago, and Washington, DC. There is a trend, however, for public relations jobs to be dispersed throughout the Nation.

Training, Other Qualifications, and Advancement

Although there are no defined standards for entry into a public relations career, a college education combined with public relations experience, usually gained through an internship, is considered excellent preparation for public relations work. The ability to write and speak well is essential. Many beginners have a college major in public relations, journalism, advertising, or communications. Some firms seek college graduates who have worked in electronic or print



Public relations specialists maintain positive relationships between their organizations and the public.

journalism. Other employers seek applicants with demonstrated communications skills and training or experience in a field related to the firm's business—science, engineering, sales, or finance, for example.

In 1992, well over 200 colleges and about 100 graduate schools offered degree programs or special curricula in public relations, usually in a journalism or communications department. In addition, many other colleges offered at least one course in this field. A commonly used public relations sequence includes the following courses: Public relations principles and techniques; public relations management and administration, including organizational development; writing, emphasizing news releases, proposals, annual reports, scripts, speeches, and related items; visual communications, including desktop publishing and computer graphics; and research, emphasizing social science research and survey design and implementation. Courses in advertising, journalism, business administration, political science, psychology, sociology, and creative writing also are helpful, as is familiarity with word processing and other computer applications. Specialties are offered in public relations for business, government, or nonprofit organizations.

Many colleges help students gain part-time internships in public relations that provide valuable experience and training. The Armed Forces also can be an excellent place to gain training and experience. Membership in local chapters of the Public Relations Student Society of America or the International Association of Business Communicators provides an opportunity for students to exchange views with public relations specialists and to make professional contacts that may help them find a full-time job in the field. A portfolio of published articles, television or radio programs, slide presentations, and other work is an asset in finding a job. Writing for a school publication or television or radio station provides valuable experience and material for one's portfolio.

Creativity, initiative, good judgment, and the ability to express thoughts clearly and simply are essential. Decision making, problem solving, and research skills are also important.

People who choose public relations as a career need an outgoing personality, self-confidence, an understanding of human psychology, and an enthusiasm for motivating people. They should be competitive, yet flexible and able to function as part of a team.

Some organizations—particularly those with large public relations staffs—have formal training programs for new employees. In smaller organizations, new employees work under the guidance of experienced staff members. Beginners often maintain files of material about company activities, scan newspapers and magazines for appropriate articles to clip, and assemble information for speeches and pamphlets. After gaining experience, they may write news releases, speeches, and articles for publication, or design and carry out public relations programs. Similar to other occupations, public relations specialists in smaller firms generally get all-around experience, whereas those in larger firms tend to be more specialized.

The Public Relations Society of America accredits public relations specialists who have at least 5 years of experience in the field and have passed a comprehensive 6-hour examination (5 hours written, 1 hour oral). The International Association of Business Communicators also has an accreditation program for professionals in the communications field, including public relations specialists. Those who meet all the requirements of the program earn the designation, Accredited Business Communicator. Candidates must have at least 5 years of experience in a communication field and pass a written and oral examination. They also must submit a portfolio of work samples demonstrating involvement in a range of communication projects and a thorough understanding of communication planning. Employers consider professional recognition through accreditation a sign of competence in this field, and it may be especially helpful in a competitive job market.

Promotion to supervisory jobs may come as public relations specialists show they can handle more demanding managerial assignments. In public relations firms, a beginner may be hired as a research assistant or account assistant and be promoted to account executive, account supervisor, vice president, and eventually senior vice president. A similar career path is followed in corporate public

relations, although the titles may differ. Some experienced public relations specialists start their own consulting firms. (For more information on public relations managers, see the *Handbook* statement on marketing, advertising, and public relations managers.)

Job Outlook

Keen competition for public relations jobs will likely continue among recent college graduates with a degree in communications—journalism, public relations, advertising, or a related field—as the number of applicants is expected to exceed the number of job openings. People without the appropriate educational background or work experience will face the toughest obstacles in finding a public relations job.

Employment of public relations specialists is expected to increase about as fast as the average for all occupations through the year 2005. Recognition of the need for good public relations in an increasingly competitive business environment should spur demand for public relations specialists in organizations of all sizes. However, corporate restructuring and downsizing, in an effort to cut costs, could limit employment growth. Employment in public relations firms should grow as firms hire contractors to provide public relations services rather than support full-time staff. The vast majority of job opportunities should result from the need to replace public relations specialists who leave the occupation to take another job, retire, or for other reasons.

Earnings

Median annual earnings for salaried public relations specialists who usually worked full time were about \$32,000 in 1992. The middle 50 percent earned between \$24,000 and \$51,000 annually; the lowest 10 percent earned less than \$17,000; and the top 10 percent earned more than \$62,000.

A College Placement Council salary survey indicated new college graduates entering the public relations field were offered average starting salaries of about \$21,000 in 1993.

According to a 1992 salary survey by the *Public Relations Journal*, the median entry level salary of public relations account executives was almost \$21,000 a year. Median annual salaries of all public relations account executives ranged from \$28,000 in public relations firms to about \$36,000 in corporations. Manufacturers, utilities, and scientific and technical firms were among the highest paying employers; museums and miscellaneous nonprofit organizations, religious and charitable organizations, and advertising agencies were among the lowest paying employers. The survey indicated an annual median salary for all respondents, including managers, of about \$44,000. Some highly successful public relations workers earn considerably more.

In the Federal Government, persons with a bachelor's degree generally started at \$22,700 a year in 1993; those with a master's degree generally started at \$27,800 a year. Public affairs specialists in the Federal Government in nonsupervisory, supervisory, and managerial positions averaged about \$45,400 a year in 1993.

Related Occupations

Public relations specialists create favorable attitudes among various organizations, special interest groups, and the public through effective communication. Other workers with similar jobs include fundraisers, lobbyists, promotion managers, advertising managers, and police officers involved in community relations.

Sources of Additional Information

A comprehensive directory of schools offering degree programs or a sequence of study in public relations, and a brochure on careers in public relations, are available for \$10 and \$2, respectively, from: Public Relations Society of America, Inc., 33 Irving Place, New York, NY 10003-2376.

Current information on the public relations field, salaries, and other items is available from:

PR Reporter, P.O. Box 600, Exeter, NH 03833.

Career information on public relations in hospitals/health care is available from:

Radio and Television Announcers and Newscasters

(D.O.T 131.067-010, and -018, .267-010; 159.147-010, and -014)

Nature of the Work

Announcers and newscasters are well-known personalities to radio and television audiences. Radio announcers, often called disk jockeys, select and introduce recorded music; present news, sports, weather, and commercials; interview guests; and report on community activities and other matters of interest to their audience. If a written script is required, they may do the research and writing. They often "ad-lib" much of the commentary. They also may operate the control board, sell commercial time to advertisers, and write commercial and news copy.

Announcers at large stations usually specialize in sports or weather, or in general news, and may be called newscasters or anchors. Some are news analysts. In small stations, one announcer may do everything.

News anchors, or a pair of co-anchors, present news stories and introduce in-depth videotaped news or live transmissions from on-the-scene reporters. (See statement on reporters and correspondents elsewhere in the *Handbook*.) Weathercasters, also called weather reporters or meteorologists, report and forecast weather conditions. They gather information from national satellite weather services, wire services, and other local and regional weather bureaus. Sports-casters select, write, and deliver the sports news. This may include interviews with sports personalities and live coverage of games played.

Broadcast news analysts, called commentators, present news stories and also interpret them and discuss how they may affect the Nation or listeners personally.

Show hosts and hostesses interview guests about their lives, their work, or topics of current interest. They may ask questions of contestants, or manage play of games to enable contestants to win prizes.

Announcers frequently participate in community activities. Sports announcers, for example, are masters of ceremonies at touch-down club banquets or are on hand to greet customers at openings of sporting goods stores.

Working Conditions

Announcers and newscasters usually work in well-lighted, air-conditioned, soundproof studios.

The broadcast day is long for radio and TV stations—some are on the air 24 hours a day—so announcers can expect to work unusual hours. Many announcers present early morning shows, when many people are getting ready for work or commuting, or do late night newscasts.

Working within a tight schedule requires split-second timing, and the resulting stress can be physically and mentally tiring. For many announcers, the intangible rewards—creative work, many personal contacts, and the satisfaction of becoming widely known—far outweigh the disadvantages of irregular and often unpredictable hours, work pressures, and disrupted personal lives.

Employment

Radio and television announcers and newscasters held about 56,000 jobs in 1992. Nearly all were staff announcers, but some were freelance announcers who sold their services for individual assignments to networks and stations, or to advertising agencies and other independent producers.



Small radio stations are more inclined to hire beginners.

Training, Other Qualifications, and Advancement

Entry to this occupation is highly competitive. While formal training in broadcast journalism from a college or technical school (private broadcasting school) is valuable, station officials pay particular attention to taped auditions that show an applicant's delivery and—in television—appearance and style on commercials, news, and interviews. Those hired by television stations usually start out as production secretaries, production assistants, researchers, or reporters and are given a chance to move into announcing if they show an aptitude for "on-air" work. Newcomers to TV broadcasting also may begin as news camera operators. (See the statement on photographers and camera operators elsewhere in the *Handbook*.) A beginner's chance of landing an on-air newscasting job is remote, except possibly for a small radio station. In radio, newcomers generally start out taping interviews and operating equipment.

Announcers usually begin at a station in a small community and, if qualified, may then move to a better paying job in a large city. Announcers also may advance by hosting a regular program as a disc jockey, sportscaster, or other specialist. In the national networks, competition for jobs is particularly intense, and employers look for college graduates with at least several years of successful announcing experience.

Announcers must have a pleasant and well-controlled voice, good timing, excellent pronunciation, and correct English usage. Television announcers need a neat, pleasing appearance as well. Knowledge of theater, sports, music, business, politics, and other subjects likely to be covered in broadcasts improves chances for success. In addition, announcers should be able to "ad-lib" all or part of a show and to work under tight deadlines. The most successful announcers attract a large audience by combining a pleasing personality and voice with an appealing style.

High school courses in English, public speaking, drama, foreign languages, and electronics are valuable, and hobbies such as sports and music are additional assets. Students may gain valuable experience at campus radio or TV facilities and at commercial stations. Some stations and cable systems offer financial assistance and on-the-job training in the form of internships, apprentice programs, co-op work programs, scholarships, or fellowships.

Persons considering enrolling in a broadcasting school should contact personnel managers of radio and television stations as well as broadcasting trade organizations to determine the school's reputation for producing suitably trained candidates.

Announcers in small radio stations usually operate transmitters, so they must obtain a Federal Communications Commission (FCC) restricted radiotelephone operator permit. (For additional information on FCC requirements, see the statement on broadcast technicians elsewhere in the *Handbook*.)

Job Outlook

Employment of announcers is expected to increase about as fast as the average for all occupations through the year 2005 as new radio and television stations are licensed and the number of cable television systems continues to grow. Most openings in this relatively small field will arise from the need to replace those who transfer to other kinds of work or leave the labor force. Many announcers leave the field because they can not advance to better paying jobs.

Competition for jobs as announcers will be very keen because the broadcasting field typically attracts many more jobseekers than there are jobs. Small radio stations are more inclined to hire beginners, but the pay is low. Because competition for ratings is so intense in major metropolitan areas, large stations will continue to seek announcers and newscasters who have proven that they can attract and retain a large audience.

Newscasters who are knowledgeable in such areas as business, consumer, and health news may have an advantage over others. While specialization is more common at larger stations and the networks, many smaller stations also encourage it.

Employment in this occupation is not significantly affected by downturns in the economy. If recessions cause advertising revenues to fall, stations tend to cut "behind-the-scenes" workers rather than announcers and broadcasters.

Earnings

Salaries in broadcasting vary widely. They are higher in television than in radio, higher in larger markets than in small ones, and higher in commercial than in public broadcasting.

According to a survey conducted by the National Association of Broadcasters and the Broadcast Cable Financial Management Association, the median salary for experienced radio announcers was \$17,000 a year in 1992. Salaries ranged from \$13,000 in the smallest markets to \$45,000 in the largest markets for on-air personalities. News announcers' median was \$17,700, ranging from \$14,700 in the smallest to \$40,330 in the largest markets. Sports reporters' median was \$18,000, ranging from \$12,500 in the smallest to \$30,600 in the largest markets.

Among television announcers, news anchors' median salary was \$41,000, ranging from \$28,000 in the smallest to \$163,000 in the largest markets. Weathercasters' median was \$36,660, ranging from \$25,200 to \$103,321. Sportscasters' median was \$31,900, ranging from \$22,000 to \$142,500.

Related Occupations

The success of announcers and news broadcasters depends upon how well they speak to their audiences. Others for whom oral communication skills are vital are interpreters, sales workers, public relations specialists, teachers, and actors.

Sources of Additional Information

For a list of schools that offer programs and courses in broadcasting, contact:

☞ Broadcast Education Association, 1771 N St. NW., Washington, DC 20036.

For information on FCC licenses, write to:

☞ Federal Communications Commission, 1919 M St. NW., Washington, DC 20552.

General information on the broadcasting industry is available from:

☞ National Association of Broadcasters, 1771 N St. NW., Washington, DC 20036.

For information on careers in broadcast news, contact:

☞ Radio-Television News Directors Association, 1717 K St. NW., Suite 615, Washington, DC 20006.

Reporters and Correspondents

(D.O.T. 131.262-018)

Nature of the Work

Reporters and correspondents play a key role in our society. They gather information and prepare stories that inform us about local, State, national, and international events; present points of view on current issues; and report on the actions of public officials, corporate executives, special interest groups, and others who exercise power. In covering a story, they investigate leads and news tips, look at documents, observe on the scene, and interview people. Reporters take notes and may also take photographs or shoot videos. At their office, they organize the material, determine their focus or emphasis, write their stories, and may also edit videos. Many enter information or stories on portable computers, then submit it to their offices using a telephone modem. In some cases, newswriters write the story from information collected and submitted by the reporter.

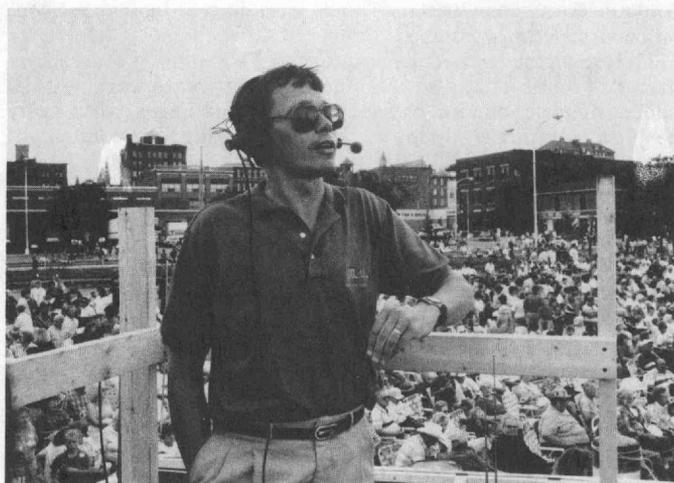
Radio and television reporters often compose stories and report "live" from the scene. Later, they may tape a commentary in the studio.

General assignment reporters write up news as assigned, such as an accident, a political rally, the visit of a celebrity, or a company going out of business. Large newspapers and radio and television stations assign reporters to gather news at specific locations or "beats," such as police stations or courts. They also have reporters specializing in fields such as health, politics, foreign affairs, sports, theater, consumer affairs, social events, science, business, and religion. Investigative reporters cover stories that take many days or weeks of information gathering.

News correspondents are stationed in large U.S. and foreign cities to report on news occurring there. Reporters on small publications cover all aspects of the news, and also may take photographs, write headlines, lay out pages, edit wire service copy, and write editorials. They also may solicit advertisements, sell subscriptions, and perform general office work.

Working Conditions

The work of reporters and correspondents is usually hectic. They are under great pressure to meet deadlines. Some reporters work in comfortable, private offices; others work in large rooms filled with the sound of keyboards and computer printers as well as the voices of other reporters. Those reporting from the scene for radio and television may be distracted by curious onlookers or police or other emergency workers. Covering wars, political uprisings, fires, floods, and similar events may be dangerous.



Broadcast reporters need to be at ease on camera.

Working hours vary. Reporters on morning papers often work from late afternoon until midnight. Those on afternoon or evening papers generally work from early morning until early or mid-afternoon. Radio and television reporters generally are assigned to a day or evening shift. Magazine reporters generally work during the day. Reporters may have to change their work hours to meet a deadline or to follow late-breaking developments. Their work may demand long hours, irregular schedules, and some travel.

Employment

Reporters and correspondents held about 58,000 jobs in 1992. About 7 of every 10 worked for newspapers, either large city dailies or suburban and small town dailies or weeklies. Almost 2 in 10 worked in radio and television broadcasting, and others worked for magazines and wire services.

Training, Other Qualifications, and Advancement

Most employers prefer people with a bachelor's degree in journalism, but some hire graduates with other majors. They look for experience on school newspapers or broadcasting stations and internships with news organizations. Large city newspapers and stations may also prefer candidates with a degree in a subject-matter specialty such as economics, political science, or business. Large newspapers and broadcasters also require a minimum of 3 to 5 years experience as a reporter.

Bachelor's degree programs in journalism are available in over 300 colleges. About three-fourths of the courses in a typical curriculum are in liberal arts; the remainder are in journalism. Journalism courses include introductory mass media, basic reporting and copy editing, history of journalism, and press law and ethics. Students planning a career in broadcasting take courses in radio and television newscasting and production. Those planning newspaper or magazine careers usually specialize in news-editorial journalism.

Many community and junior colleges offer journalism courses or programs; credits may be transferable to 4-year journalism programs.

A master's degree in journalism was offered by over 100 schools in 1992; about 20 schools offered a Ph.D. degree. Some graduate programs are intended primarily as preparation for news careers, while others prepare journalism teachers, researchers and theorists, and advertising and public relations workers.

High school courses in English, journalism, and social studies, provide a good foundation. Useful college liberal arts courses include English with an emphasis on writing, sociology, political science, economics, history, and psychology. Courses in computer science, business, and speech are useful as well. Fluency in a foreign language is necessary in some jobs.

Reporters need good word processing skills, and computer graphics and desktop publishing skills are useful. A knowledge of news photography is valuable for entry level positions which are for combination reporter/camera operator or reporter/photographer.

Experience in a part-time or summer job or an internship with a news organization is important. The Dow Jones Newspaper Fund and newspaper, magazines, and broadcast news organizations offer summer reporting and editing internships. Work on high school and college newspapers and broadcasting stations, community papers, and Armed Forces publications also helps. In addition, more than 3,000 journalism scholarships, fellowships, and assistantships were awarded to college journalism students by universities, newspapers, foundations, and professional organizations in 1990.

Experience as a "stringer"—a part-time reporter who is paid only for stories printed—is also helpful.

Reporters should be dedicated to providing accurate and impartial news. Accuracy is important both to serve the public and because untrue or libelous statements can lead to costly lawsuits. A "nose for news," persistence, initiative, poise, resourcefulness, a good memory, and the physical stamina and emotional stability to deal with pressing deadlines, irregular hours, and sometimes dangerous assignments are important. Broadcast reporters need to be at ease on camera. All reporters must be at ease in unfamiliar places with all kinds of people.

Most reporters start with small publications or broadcast stations as general assignment reporters or copy editors. Large publications

and stations hire very few recent graduates; they generally require their new reporters to have several years of experience.

Beginning reporters do routine assignments; they cover court proceedings and civic and club meetings, summarize speeches, and write obituaries. With experience, they report more difficult assignments, cover an assigned "beat," or specialize in a particular field.

Reporters may advance by moving to larger papers or stations. Some experienced reporters become columnists, correspondents, writers, announcers, or public relations specialists. Others become editors in print journalism or program managers in broadcast journalism, who supervise reporters. Some eventually become broadcasting or publications industry managers.

Job Outlook

Employment of reporters and correspondents is expected to grow about as fast as the average for all occupations through the year 2005—spurred mainly by an anticipated increase in the number of small town and suburban daily and weekly newspapers. Little or no increase is expected in the number of big city dailies. Some growth is expected in radio and television stations.

Most job openings will arise from the need to replace reporters and correspondents who leave the occupation. Turnover is relatively high in this occupation—some find the work too stressful and hectic, or don't like the lifestyle and transfer to other occupations where their skills are valuable, especially public relations and advertising work. Others leave because they are unable to move up to better paid jobs in bigger cities.

Competition for reporting jobs on large metropolitan newspapers and broadcast stations and on national magazines will continue to be keen. Small town and suburban newspapers will continue to offer better opportunities for beginners. Many openings arise on small publications as reporters become editors or reporters on larger publications or leave the field. Talented writers who can handle highly specialized scientific or technical subjects have an advantage.

Journalism graduates have the background for work in such closely related fields as advertising and public relations and many take jobs in these fields. Other graduates accept sales, managerial, and other nonmedia positions, in many cases because it is difficult to find media jobs.

The newspaper and broadcasting industries are sensitive to economic ups and downs. During recessions, few new reporters are hired and some reporters lose their jobs.

Earnings

The Newspaper Guild negotiates with individual newspapers on minimum salaries for both starting reporters and those still on the job after 3 to 6 years. The median minimum salary for reporters was about \$406 a week as of August 1, 1992. Ten percent of the contracts called for minimums of \$300 or less; 10 percent, \$567 or more. The median minimum weekly salary for reporters after 3 to 6 years on the job was about \$654 a week. Ten percent of the contracts called for top minimums of \$479 or less; 10 percent, \$856 or more.

Annual median salaries of radio reporters ranged from \$12,000 in the smallest stations to \$33,388 in the largest stations in 1992, according to a survey conducted by the National Association of Broadcasters. For all stations, the median salary was \$16,000. Salaries of television reporters ranged from \$16,052 in the smallest stations to \$69,500 in the largest ones. For all stations, the median salary was \$21,825.

Related Occupations

Reporters and correspondents must write clearly and effectively to succeed in their profession. Others for whom writing ability is essential include technical writers, advertising copy writers, public relations workers, educational writers, fiction writers, biographers, screen writers, and editors.

Sources of Additional Information

Career information, including a pamphlet entitled *Facts about Newspapers*, is available from:

☞ Newspaper Association of America, The Newspaper Center, Box 17407, Dulles International Airport, Washington, DC 20041.

Career information, including a pamphlet entitled *Newspaper: What's In It For Me?*, is available from:

✉ Newspaper Association of America Foundation, 11600 Sunrise Valley Dr., Reston, VA 22091.

Information on careers in journalism, colleges and universities that offer degree programs in journalism or communications, and journalism scholarships and internships may be obtained from:

✉ The Dow Jones Newspaper Fund, Inc., P.O. Box 300, Princeton, NJ 08543-0300.

For a list of junior and community colleges offering programs in journalism, contact:

✉ Community College Journalism Association, San Antonio College, 1300 San Pedro Ave., San Antonio, TX 78212-4299.

Information on union wage rates for newspaper and magazine reporters is available from:

✉ The Newspaper Guild, Research and Information Department, 8611 Second Ave., Silver Spring, MD 20910.

For a list of schools with accredited programs in their journalism departments, send a stamped, self-addressed envelope to:

✉ Accrediting Council on Education in Journalism and Mass Communications, University of Kansas School of Journalism, Stauffer-Flint Hall, Lawrence, KS 66045.

For general information about careers in journalism, contact:
✉ Association For Education in Journalism and Mass Communication, University of South Carolina, 1621 College St., Columbia, SC 29208-0251.

A pamphlet titled *A Career in Newspapers*, can be obtained from:
✉ National Newspaper Association, 1627 K St. NW., Suite 400, Washington, DC 20006.

Names and locations of newspapers and a list of schools and departments of journalism are published in the *Editor and Publisher International Year Book*, available in most public libraries and newspaper offices.

Visual Artists

(D.O.T. 102.261-014; 141.031-010; .061-010, -014, -018, -022, -026, -030 and -034; .081-010; 142.061-030; 144; 149.041, and .261; and 970.131-014, and .361-018)

Nature of the Work

Visual artists use an almost limitless variety of methods and materials to communicate ideas, thoughts, and feelings. They use oils, watercolors, acrylics, pastels, magic markers, pencils, pen and ink, silk-screen, plaster, clay, or any of a number of other media, including computers, to create realistic and abstract works or images of objects, people, nature, topography, or events.

Visual artists generally fall into one of two categories—"graphic artists" and "fine artists"—depending not so much on the medium, but on the artist's purpose in creating a work of art. Graphic artists put their artistic skills and vision at the service of commercial clients, such as major corporations, retail stores, and advertising, design, or publishing firms. Fine artists, on the other hand, often create art to satisfy their own need for self-expression, and may display their work in museums, corporate collections, art galleries, and private homes. Some of their work may be done on request from clients, but not as exclusively as that of graphic artists.

Fine artists usually work independently, choosing whatever subject matter and medium suits them. Usually, they specialize in one or two forms of art. *Painters* generally work with two-dimensional art forms. Using techniques of shading, perspective, and color-mixing, painters produce works that depict realistic scenes or may evoke different moods and emotions, depending on the artist's goals.

Sculptors design three-dimensional art works—either molding and joining materials such as clay, glass, wire, plastic, or metal, or cutting and carving forms from a block of plaster, wood, or stone. Some sculptors combine various materials such as concrete, metal, wood, plastic, and paper.

Printmakers create printed images from designs cut into wood, stone, or metal, or from computer driven data. The designs may be engraved—as in the case of woodblock; etched—as in the production of etchings; or derived from computers in the form of inkjet or laser prints.

Painting restorers preserve and restore damaged and faded paintings. They apply solvents and cleaning agents to clean the surfaces, reconstruct or retouch damaged areas, and apply preservatives to protect the paintings.

Fine artists may sell their works to stores, commercial art galleries, and museums, or directly to collectors. Commercial galleries may sell artists' works on consignment. The gallery and artist predetermine how much each earns from a sale. Only the most successful fine artists are able to support themselves solely through sale of their works, however. Most fine artists hold other jobs as well. Those with teaching certification may teach art in elementary or secondary schools, while those with a master's or Ph.D. degree may teach in colleges or universities. Some fine artists work in arts administration in city, State, or Federal arts programs. Others may work as art critics, art consultants, or as directors or representatives in fine art galleries; give private art lessons; or as curators setting up art exhibits in museums. Sometimes fine artists work in a totally unrelated field in order to support their careers as artists.

Graphic artists, whether freelancers or employed by a firm, use a variety of print, electronic, and film media to create art that meets a client's needs. Graphic artists are increasingly using computers, instead of the traditional tools such as pens, pencils, scissors, and color strips, to produce their work. Computers enable them to lay out and test various designs, formats, and colors before printing a final design.

Graphic artists perform different jobs depending on their area of expertise. *Graphic designers*, who design on a two-dimensional level, may create packaging and promotional displays for a new product, the visual design of an annual report and other corporate literature, or a distinctive logo for a product or business. They also help with the layout and design of magazines, newspapers, journals, and other publications, and create graphics for television. *Illustrators* paint or draw pictures for books, magazines, and other publications, films, and paper products, including greeting cards, calendars, wrapping paper, and stationery. Many do a variety of illustrations, while others specialize in a particular style. *Medical and scientific illustrators* combine artistic skills with knowledge of the biological sciences. Medical illustrators draw illustrations of human anatomy and surgical procedures. Scientific illustrators draw illustrations of animals and plants. These illustrations are used in medical and scientific publications, and in audiovisual presentations for teaching purposes. Medical illustrators also work for lawyers, producing exhibits for court cases, and for doctors. *Fashion artists* draw illustrations of women's, men's, and children's clothing and accessories for newspapers, magazines, and other media.

Some illustrators draw "story boards" for TV commercials. Story boards present TV commercials in a series of scenes similar to a comic strip, so an advertising agency and client (the company doing the advertising) can evaluate proposed commercials. Story boards may also serve as guides to placement of actors and cameras and to other details during the production of commercials.

Cartoonists draw political, advertising, social, and sports cartoons. Some cartoonists work with others who create the idea or story and write the captions. Most cartoonists, however, have humorous, critical, or dramatic talents in addition to drawing skills.

Animators work in the motion picture and television industries. They draw by hand and use computers to create the large series of pictures which, when transferred to film or tape, form the animated cartoons seen in movies and on TV.

Art directors, also called visual journalists, read the material to be printed in periodicals, newspapers, and other printed media, and decide how to visually present the information in an eye-catching, yet organized manner. They make decisions about which photographs or artwork to use, and in general oversee production of the printed material.

Working Conditions

Graphic and fine artists generally work in art and design studios located in office buildings or their own homes. While their surroundings are usually well lighted and ventilated, odors from glues, paint, ink, or other materials may be present.

Graphic artists employed by publishing companies and art and design studios generally work a standard 40-hour week. During



The need for self-expression motivates many fine artists.

busy periods, they may work overtime to meet deadlines. Self-employed graphic artists can set their own hours, but may spend much time and effort selling their services to potential customers or clients and establishing a reputation.

Employment

Visual artists held about 273,000 jobs in 1992. About 3 out of 5 were self-employed. Self-employed artists are either graphic artists who freelance, offering their services to advertising agencies, publishing firms, and other businesses, or fine artists who earn income when they sell a painting or other art work.

Of the artists who were not self-employed, most were graphic artists who worked for advertising agencies, design firms, commercial art and reproduction firms, or publishing firms. Others were employed by manufacturing firms, department stores, the motion picture industry, and government agencies.

Training, Other Qualifications, and Advancement

In the fine arts field, formal training requirements do not exist, but it is very difficult to become skilled enough to make a living without some basic training. Bachelor's and graduate degree programs in fine arts are offered in many colleges and universities. In the graphic arts field, demonstrated ability and appropriate training or other qualifications are needed for success. Evidence of appropriate talent and skill shown in the "portfolio" is an important factor used by art and design directors and others in deciding whether to hire or contract out work to an artist. The portfolio is a collection of hand-made, computer-generated, or printed examples of the artist's best work. In theory, a person with a good portfolio but no training or experience could succeed in graphic arts. In reality, assembling a

successful portfolio requires skills generally developed in a post-secondary art or design school program, such as a bachelor's degree program in fine art, graphic design, or visual communications. Internships also provide excellent opportunities for artists and designers to develop and enhance their portfolios. Most programs in art and design also provide training in computer design techniques. This training is becoming increasingly important as a qualification for many jobs in commercial art.

The appropriate training and education for prospective medical illustrators is more specific. Medical illustrators must not only demonstrate artistic ability but also have a detailed knowledge of living organisms, surgical and medical procedures, and human and sometimes animal anatomy. A 4-year bachelor's degree combining art and pre-medical courses is usually required, followed by a master's degree in medical illustration, a degree offered in only a few accredited schools in the United States.

Persons hired in advertising agencies or graphic design studios often start with relatively routine work. While doing this work, however, they may observe and practice their skills on the side. Many graphic artists work part time as free-lancers while continuing to hold a full-time job until they get established. Others have enough talent, perseverance, and confidence in their ability to start out freelancing full-time immediately after they graduate from art school. Many freelance part time while still in school in order to develop experience and a portfolio of published work.

The freelance artist develops a set of clients who regularly contract for work. Some successful freelancers are widely recognized for their skill in specialties such as children's book illustration, design, or magazine illustration. These artists can earn high incomes and can pick and choose the type of work they do.

Fine artists and illustrators advance as their work circulates and as they establish a reputation for a particular style. The best artists and illustrators continue to grow in ideas, and their work constantly evolves over time. Graphic artists may advance to assistant art director, art director, design director, and in some companies, creative director of an art or design department. Some may gain enough skill to succeed as a freelancer or may prefer to specialize in a particular area. Others decide to open their own businesses.

Job Outlook

The graphic and fine arts fields have a glamorous and exciting image. Many people with a love for drawing and creative ability qualify for entry to these fields. As a result, there is expected to be keen competition for both salaried jobs and freelance work, especially in fine arts. Freelance work may be hard to come by, especially at first, and many free-lancers earn very little until they acquire experience and establish a good reputation.

Employment of visual artists, overall, is expected to grow about as fast as the average for all occupations through the year 2005. Demand for the work of graphic artists will be strong as producers of information, goods, and services put even more emphasis on visual appeal in product design, advertising, marketing, and television. Employment growth for graphic designers, however, may be limited by increases in productivity due to computers, and because some firms are turning to employees without formal artistic or design training to operate computer-aided design systems. Employment of fine artists is expected to grow because of population growth, rising incomes, and growth in the number of people who appreciate fine arts.

Despite the expected employment growth, the supply of those seeking entry to this field will continue to exceed requirements. Fine artists, in particular, may find it difficult to earn a living solely by selling their artwork. Nonetheless, graphic arts studios, clients, and galleries alike are always on the lookout for artists who display outstanding talent, creativity, and style. Talented artists who have developed a mastery of artistic techniques and skills, and in many cases computer skills, should continue to be in great demand.

Earnings

Median earnings for salaried visual artists who usually work full time were about \$23,000 a year in 1992. The middle 50 percent earned between \$17,600 and \$30,800 a year. The top 10 percent

earned more than \$43,500, and the bottom 10 percent earned less than \$14,600.

The average salary for those working in design/graphic arts was \$20,800 in 1992, according to the College placement Council.

According to the Society of Publication Designers, entry level graphic designers earned between \$21,000 and \$24,000 annually.

Earnings for self-employed visual artists vary widely. Those struggling to gain experience and a reputation may be forced to charge what amounts to less than the minimum wage for their work. Well-established free-lancers and fine artists may earn much more than salaried artists. Self-employed artists do not receive benefits such as paid holidays, sick leave, health insurance, or pensions.

Related Occupations

Many occupations in the advertising industry, such as account executive or creative director, are related to commercial and graphic art and design. Workers in other occupations which apply visual art skills are architects, display workers, floral designers, industrial designers, interior designers, landscape architects, and photographers. The various printing occupations are also related to graphic art, as is the work of art and design teachers.

Sources of Additional Information

Students in high school or college who are interested in careers as illustrators should contact:

☞ The Society of Illustrators, 128 East 63rd St., New York, NY 10021-7392.

☞ The National Association of Schools of Art and Design, 11250 Roger Bacon Dr., Suite 21, Reston, VA 22090-5202.

For information on careers in medical illustration, contact:

☞ The Association of Medical Illustrators, 1819 Peachtree St. NE., Suite 560, Atlanta, GA 30309-1848.

For information on careers in scientific illustration, contact:

☞ Guild of Natural Science Illustrators, P.O. Box 652, Ben Franklin Station, Washington, DC 20044-0652.

For information on careers in graphic design, contact:

☞ The American Institute of Graphic Arts, 1059 3rd Ave., New York, NY 10021-7602.

For information on art careers in the publishing industry, contact:

☞ The Society of Publication Designers, 60 East 42nd St., Suite 721, New York, NY 10165-1416.

Writers and Editors

(D.O.T. 131 except .262-010 and -018; and 132 except .067-030)

Nature of the Work

Writers and editors communicate through the written word. Writers develop original fiction and nonfiction for books, magazines and trade journals, newspapers, technical reports, company newsletters, radio and television broadcasts, movies, and advertisements. Editors select and prepare material for publication or broadcasting and supervise writers.

Writers first select a topic or are assigned one by an editor. Topics may be ideas, tangible objects, events, people, or organizations. Writers gather information through personal observation, library research, and interviews. Sometimes, they change the focus to a more interesting related topic as they learn more. They select and organize the material and put it into words that effectively convey it to the reader. Besides reporting the information they gather, they may analyze and interpret it. Writers often revise or rewrite sections, searching for the best organization of the material or just the right phrasing. Newswriters prepare news items for newspapers or news broadcasts, based on information supplied by reporters or wire services. Columnists analyze news and write columns or commentaries, based on personal knowledge and experience. Editorial writers write comments to stimulate or mold public opinion, in accordance with their publication's viewpoint. Reporters and correspondents,

who may also write articles or copy for broadcast, are described elsewhere in this section of the *Handbook*.

Technical writers put scientific and technical information into readily understandable language. They prepare operating and maintenance manuals, catalogs, parts lists, assembly instructions, sales promotion materials, and project proposals. They also plan and edit technical reports and oversee preparation of illustrations, photographs, diagrams, and charts.

Copy writers write advertising copy for use by publication or broadcast media to promote the sale of goods and services.

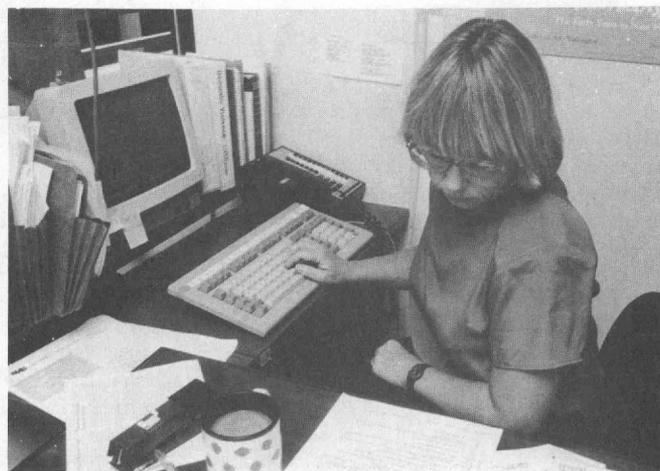
Established writers may work on a freelance basis; they sell their work to publishers or publication units, manufacturing firms, and public relations and advertising departments or agencies. They sometimes contract to complete specific assignments such as writing about a new product or technique.

Editors frequently write and almost always review, rewrite, and edit the work of writers. However, their primary duties are to plan the contents of books, magazines, or newspapers and to supervise their preparation. They decide what will appeal to readers, assign topics to reporters and writers, and oversee the production of the publications. In small organizations, a single editor may do everything. In larger ones, an executive editor oversees associate or assistant editors who have responsibility for particular subjects, such as fiction, local news, international news, or sports, or who edit one or a few publications. Editors hire writers, reporters, or other employees, plan budgets, and negotiate contracts with freelance writers. In broadcasting companies, program directors have similar responsibilities.

Editors and program directors often have assistants, with the title of assistant editor, editorial assistant, copy editor, or production assistant. Many assistants hold entry level jobs. They review copy for errors in grammar, punctuation, and spelling. They check manuscripts for readability, style, and agreement with editorial policy. They add and rearrange sentences to improve clarity or delete incorrect and unnecessary material. Editorial assistants do research for writers and verify facts, dates, and statistics. Assistants also may arrange page layouts of articles, photographs, and advertising or plan the use of tapes. They also may compose headlines, prepare copy for printing, and proofread printer's galleys. Some editorial assistants read and evaluate manuscripts submitted by freelance writers or answer letters about published or broadcast material. Production assistants on small papers or in radio stations clip stories that come over the wire services' printers, answer phones, and make photocopies. Most writers and editors use personal computers or word processors; many use desktop or electronic publishing systems.

Working Conditions

Some writers and editors work in comfortable, private offices; others work in noisy rooms filled with the sound of keyboards and computer printers as well as the voices of other writers tracking down information over the telephone. The search for information



Most writers and editors use personal computers or word processors.

sometimes requires travel and visits to diverse workplaces, such as factories, offices, laboratories, the ballpark, or the theater, but many have to be content with telephone interviews and the library.

The workweek usually runs 35 to 40 hours. Those who prepare morning or weekend publications and broadcasts work nights or weekends. Writers may work overtime to meet deadlines or to cover a late-developing story. They face deadlines and the pressure to meet them. On some jobs, there are deadlines every day.

Employment

Writers and editors held about 283,000 jobs in 1992. Nearly a third of salaried writers and editors work for newspapers, magazines, and book publishers. Substantial numbers also work in advertising agencies, in radio and television broadcasting, in public relations firms, and on journals and newsletters published by business and nonprofit organizations, such as professional associations, labor unions, and religious organizations. Others develop publications for government agencies or write for motion picture companies.

Many technical writers work for computer software firms or manufacturers of aircraft, chemicals, pharmaceuticals, and computers and other electronic equipment.

Jobs with major book publishers, magazines, broadcasting companies, advertising agencies and public relations firms, and the Federal Government are concentrated in New York, Chicago, Los Angeles, Boston, Philadelphia, San Francisco, and Washington, D.C. More widely dispersed throughout the country are jobs with newspapers; and professional, religious, business, technical, and trade union magazines or journals. Technical writers are employed throughout the country but the largest concentrations are in the Northeast, Texas, and California.

Thousands of other persons work as freelancers—earning some income from their articles, books, and, less commonly, television and movie scripts. Most support themselves primarily with income from other sources.

Training, Other Qualifications, and Advancement

A college degree generally is required. Although some employers look for a broad liberal arts background, most prefer to hire people with degrees in communications, journalism, or English.

Technical writing requires a degree in or some knowledge about a specialized field—engineering, business, or one of the sciences, for example. In many cases, people with good writing skills can pick up specialized knowledge on the job. Some transfer from jobs as technicians, scientists, or engineers. Some begin as research assistants, editorial assistants, or trainees in a technical information department, develop technical communication skills, and then assume writing duties.

Writers and editors must be able to express ideas clearly and logically and should love to write. Creativity, curiosity, a broad range of knowledge, self-motivation, and perseverance are also valuable. For some jobs, the ability to concentrate amid confusion and to produce under pressure is essential. Familiarity with electronic publishing, graphics, and video production equipment is increasingly needed. Editors must have good judgment in deciding what material to accept and what to reject. They need tact and the ability to guide and encourage others in their work.

High school and college newspapers, literary magazines, and community newspapers and radio and television stations all provide valuable—but sometimes unpaid—practical writing experience. Many magazines, newspapers, and broadcast stations have internships for students. Interns write short pieces, conduct research and interviews, and learn about the publishing or broadcasting business.

In small firms, beginning writers and editors may not only work as editorial or production assistants but also write or edit material right away. They often advance by moving to other firms. In larger firms, jobs usually are structured more formally. Beginners generally do research, fact checking, or copy editing. They take on full-

scale writing or editing duties less rapidly than do the employees of small companies. Advancement comes as they are assigned more important articles.

Job Outlook

Employment of writers and editors is expected to increase about as fast as the average for all occupations through the year 2005. Employment of salaried writers and editors by newspapers, periodicals, book publishers, and nonprofit organizations is expected to increase with growing demand for their publications. Growth of advertising and public relations agencies should also be a source of new jobs. Demand for technical writers is expected to increase because of the continuing expansion of scientific and technical information and the continued need to communicate it. Many job openings will also occur as experienced workers transfer to other occupations or leave the labor force. Turnover is relatively high in this occupation—many freelancers leave because they can not earn enough.

Through the year 2005, the outlook for most writing and editing jobs is expected to continue to be keenly competitive primarily because so many people are attracted to the field. However, opportunities will be good for technical writers because of the more limited number of writers who can handle technical material. Opportunities should be better on small dailies and weekly newspapers and in small radio and television stations, where the pay is low. Persons preparing to be writers and editors should also have academic preparation in another field as well, either to qualify them as writers specializing in that field or to enter that field if they are unable to get a writing job.

Earnings

In 1992, beginning salaries for writers and editorial assistants averaged \$20,000 annually, according to the Dow Jones Newspaper Fund. Those who had at least 5 years experience averaged more than \$30,000 and senior editors at the largest newspapers earned over \$60,000 a year.

According to the 1992 Technical Communicator's Salary Survey, median annual salaries for technical writers were as follows:

Entry level	\$26,700
Mid-level nonmanagement	35,000
Mid-level management	40,000
Senior management	45,400

The average annual salary for technical writers and editors in the Federal Government in nonsupervisory, supervisory, and managerial positions was \$40,669; other writers and editors averaged \$39,077.

Related Occupations

Writers and editors communicate ideas and information. Other communications occupations include newspaper reporters and correspondents, radio and television announcers, advertising and public relations workers, and teachers.

Sources of Additional Information

- For a guide to journalism careers and scholarships, contact:
☞ The Dow Jones Newspaper Fund, P.O. Box 300, Princeton, NJ 08540.
- For information on college internships in magazine editing, contact:
☞ American Society of Magazine Editors, 575 Lexington Ave., New York, NY 10022.
- For information on careers in technical writing, contact:
☞ Society for Technical Communication, Inc., 901 N. Stuart St., Suite 304, Arlington, VA 22203.

Selected items from The Bureau of Labor Statistics library of
**Career and Job Outlook
 Publications**

Do you have the
 latest editions?

Occupational Outlook Handbook—1994-95 Edition

The original, and still leading source of authoritative, nontechnical career information for about 250 occupations. Each description includes information on nature of the work, training required, earnings, job prospects, and sources of additional information. 473 pp., \$26, hard cover; \$23, soft cover.

Occupational Outlook Handbook Reprints

Groups of related jobs covered in the 1994-95 *Occupational Outlook Handbook* are available as individual reprints. These reprints are especially useful for jobseekers who want to know about a single field and for counselors who need to stretch the contents of a single *Handbook* among many students.

No.		Price
2450	<i>Collated set of all 20 reprints</i>	\$24.00
2450-1	Tomorrow's Jobs: Overview	1.25
2450-2	Business and Managerial Occupations	2.75
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