

Job Horizons

for the
College Woman

Women's Bureau
Pamphlet One
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Foreword

COLLEGE WOMEN today can enter practically any field—professional, scientific, administrative—either in private business or in public service. The way is open for the individual woman who proves her competence to reach a high level in her chosen field.

It is not too soon for a student to begin thinking about after-college plans when she is deciding on a major field of study. By foresight in planning her courses and in combining liberal arts and technical or professional subjects, her job prospects can be greatly enhanced.

The facts and suggestions in this publication are based on the cumulative experience of the Women's Bureau of the United States Department of Labor, which for 36 years has been the Federal agency responsible for advancing the interests of women workers. This pamphlet was written by Miriam Keeler of the Division of Program Planning, Analysis, and Reports, of which Anna Jo W. Behrens is Chief. It was prepared in response to requests, from deans of women and faculty advisers engaged in counseling, for materials that would meet the needs of women students who are searching the job horizon. We hope that both counselors and students will find it of use.

Alice K. Leopold
Director, Women's Bureau.

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Job Horizons for the College Woman

Note to Students and Counselors

STUDENTS, and the counselors who are helping them with job prospects, ask extremely practical questions. They want to know, for example, which fields of work are expanding, and which industries are actively recruiting college women. Chapter 1, headed "Some Career Suggestions" offers information of this type. The liberal arts graduate will find there an indication of some of the ways in which she may use her training. The suggestions may focus her thinking and serve as a starting point for talks with her vocational counselor or placement director.

The undergraduate who wishes to enter an occupation requiring special preparation will need to supplement these suggestions with a carefully considered plan of study to meet specific occupational requirements. If a State license or certificate is needed, it is essential that at least part of her preparation be obtained in a school meeting the standards of the State where she expects to be employed. In some of the professions for which the standards are set by a national accrediting association, it is important to select a school approved by the association.

For the college woman who has decided on the kind of job she wants, but lacks experience in applying for a specific job, chapter 2, on Job-Finding Techniques,¹ is included. It may be used by a student looking for a summer job as well as by a graduate ready to enter her chosen profession.

Women students do not necessarily think of themselves as prospective wage earners in the same way that men do. As a matter of fact, however, the majority of women do take a job after leaving college, at least until they marry. Important considerations in making a decision whether to look for a job immediately or to continue studying are introduced in chapter 3, "Some Practical Considerations."

Counselors—and students who are interested in the general job picture—want to know what percentage of women college graduates are in the labor force, what their occupations are, and how important they are in the national economy. Chapter 4, "Women on the Job," is included to provide a quick summary of this background information.

¹Also available from the Women's Bureau as a separate leaflet.

Some Career Suggestions

THE ENTIRE range of occupations open to college women is far too extensive to be covered in a pamphlet of limited size. Most of the possibilities discussed here are in the nature of promising fields of employment in which college women with the appropriate specializations might be interested. A few shortage occupations which have been the subject of study recently in the Department of Labor—engineering, nursing, accounting—are singled out for separate treatment. On the other hand, many occupations and professions offering excellent opportunities for women are omitted altogether, or given only incidental mention: to name a few—

advertising and merchandising	personnel work
commercial art, design	pharmacy
farming and ranching	public relations
interior decorating	radio and television
law	social science
medicine and dentistry	vocational guidance

Years of progressively responsible experience in professional work are required to reach some of the top staff positions described. A college student making long-range plans for a career should expect to start in a junior or assistant job, but advance more rapidly and to a higher level than would otherwise be possible, especially if she eventually studies for an advanced degree.

Women's Bureau reports, cited under Additional References, are available for each of the occupations marked with an asterisk. These reports give more detailed information on recommended training and qualifications, supply and demand, earnings, working conditions, and prospects for advancement.

Basic information on some 400 occupations can be found in the Occupational Outlook Handbook issued by the Bureau

of Labor Statistics of the United States Department of Labor. For each occupation covered, the Handbook gives a brief description of the nature of the work, how to enter, outlook, earnings and working conditions.

Accounting*

Well-qualified accountants have been in increasing demand since World War II, and the need for them is expected to exceed the supply at least through the 1950's. Many industrial concerns and public accounting firms send representatives to colleges to interview and recruit students, and seem increasingly willing to recruit women accounting graduates.

The decennial census reported 55,660 women employed as accountants and auditors in 1950. This was 15 percent of all accountants and auditors in that year. Of the women accountants, 20 years of age and over, only 7,601 had 4 years or more of college training; another 12,771 had 1 to 3 years of college.

The highest level of professional skill in accountancy is that of certified public accountant (CPA). Candidates for the CPA must meet various qualifications, including several years of employment in accountancy and the successful completion of the State certifying examination. Nearly all of 200 women CPA's who responded to a recent questionnaire had some college training; 25 percent had done graduate work.

Accounting specialties include auditing, cost accounting, and tax accounting, as well as public accountancy. Many accountants also specialize in some type of business—for example, public utilities, banking, or a manufacturing industry.

Students would be well advised, if interested in accounting as a career, to complete a 4-year course in a college or uni-

*See Additional References.

versity that offers a concentration of courses in their field of interest; some colleges offer an internship training program in accountancy. A broad cultural background is advantageous, with stress on economics and mathematics.

Administrative Work

Chances for women to reach executive positions are found in personnel and industrial-relations departments of many large concerns, and in branch operations of all kinds of industries and businesses. Advancement policies, however, vary from industry to industry and from employer to employer. Top positions in administration are often the result of experience obtained in other fields of work. In some of the newer fields for women—advertising, merchandising, and magazine publishing, for example—women are often teamed with men in top-level administrative jobs. In a few industries women hold top executive jobs as corporate officers or senior executives.

These are among the findings of a survey made by the Harvard Business School for the Radcliffe Management Training Program for Women.² The fields covered were accounting, advertising, banking, credit, food, government, heavy industry, hospitals, insurance, law, management consulting, manufacturing, publishing, retailing, textiles, utilities, and wholesaling.

In hospitals

A number of the graduates of the Radcliffe program obtained administrative positions in hospitals in New England and New York. This is a new field, as hospital trustees have only recently begun to recognize the desirability of using persons trained in business administration, and especially in personnel work, for top staff positions.

² "Opportunities for Women at the Administrative Level," by Frances M. Fuller and Mary B. Batchelder. *Harvard Business Review* 31:111-128 (Jan.-Feb. 1953).

In colleges

The National Education Association in 1952 canvassed some 700 coeducational colleges and universities as to their administrative officers. Women held one-fifth of the total number of administrative positions reported.

The top-level administrative positions held most frequently by women in coeducational institutions were:

<i>Position</i>	<i>Percent held by women</i>
Dean of women	99
Director of food services	80
Director of residence	77
Head librarian	68
Registrar	47
Student guidance	46
Director of health	44

In the following types of administrative positions in coeducational colleges, women were frequently found employed as assistants: admissions officer, dean of students, business manager, purchasing agent, comptroller, and treasurer.

In women's colleges, opportunities for women exist at all levels of administration.

*In the Armed Forces**

Women college graduates who are interested in a career in the Armed Forces may apply for a commission in the branch in which they are interested. In the women's branches, all the officers are women. The highest rank that can be held by a woman is that of captain in the Navy or colonel in the Army, Air Force, and Marines.

An officer is expected to handle a great variety of tasks commensurate with her age, rank, and experience. A broad educational background, therefore, is essential. A college woman who receives a commission may be placed in any one of a number of departments, such as administration, commu-

*See Additional References.

nications, public relations, intelligence, logistics, finance, or engineering, and she may be moved from one department to another.

College graduates with professional or technical training in a medical specialty are especially needed. Medical technologists are extensively employed in hospitals operated by the Armed Forces. Nurses, dietitians, and occupational and physical therapists receiving staff commissions in military hospitals of the Army, Navy, and Air Force and in the United States Public Health Service begin as second lieutenants or ensigns.

In industrial management

The need for college training for the business woman is increasingly recognized. There is little doubt that a college course emphasizing mathematics, statistics, accounting, money and banking, industrial psychology, and other business subjects is a definite advantage to the girl who hopes to become a successful business woman, especially if she eventually establishes her own business.

A statewide survey made in 1951 by the Missouri Division of Industrial Inspection reported 672 women who head their own businesses in 21 cities, heading 64 types of establishments. Of these women, 94 were in the printing and publishing business, 80 were in food products including meat packing, and 66 had clothing or shoe establishments. More than a hundred women owned foundries or machinery, sheet-metal, steel-products, and stone-and-gravel plants. Others had their own auto supply and repair shops or plants manufacturing paper containers, drugs and chemicals, furniture, and tools.

Banking

There were some 9,000 women listed as bank officers in 1956. About one-third of these replied to a questionnaire sent by the National Association of Bank Women with the cooperation of the Women's Bureau. Most of the women who replied were employed by the smaller banks. Some

women executives were found in each of the officer positions. By far the largest number (about 60 percent) were assistant cashiers; others were cashiers, secretaries, trust officers, treasurers, and vice presidents. Eight percent of those who replied held a college degree; 22 percent had some college training.

Women bankers who are college graduates strongly endorse the view that today college training is an asset for the woman hoping to advance in the banking world. One of them says:

Women officers in banks today are engaged in every type of banking activity. They make loans; they handle bank operations, public relations, and personnel; they administer trusts; they develop new business; they do research. In large banks most women officers are specialists. In small banks the women, like their male colleagues, do a little bit of everything. . . . It is my firm conviction that the financial world needs more qualified women in positions of responsibility and that women will find in such positions tremendously satisfying careers.³

Civil Service

Federal

Every year hundreds of college seniors and recent college graduates qualify for positions in Government agencies. A general Federal Service Entrance Examination is now used to fill a wide variety of positions at the entrance or trainee level. Completion of a 4-year college course leading to a bachelor's degree (or its equivalent) is required, but the examination may be taken during the senior year.⁴ Application blanks may be obtained from any post office or from the United States Civil Service Commission, Washington 25, D. C. Success in this test qualifies a person for positions in Wash-

³ "Women in the World of Finance," by Catherine B. Cleary, *Journal of the American Association of University Women* 48: 70-72 (January 1955). The author (who is both a college graduate and a lawyer) has served as assistant to the Secretary of the Treasury of the United States, and as vice president of a Wisconsin bank.

⁴ The beginning salary is \$3,670 a year (GS-5) for a person with a bachelor's degree; \$4,525 (GS-7), with a master's degree.

ington and elsewhere. Options include general administration, communications, personnel, budget, library science, statistics, and information. The test is given several times a year and a person who fails to qualify may take it again.

Persons of high caliber and with certain needed qualifications have the opportunity to apply for participation in the Management Intern Program. Those college graduates who are interested in special training looking toward positions of responsibility in the Federal Service can qualify for the intern program by passing the general FSEE test and also a special written test on either administrative problems or public affairs. In all civil-service positions, women receive the same pay as men at the same level. In 1954 almost 1,000 women held high civil-service positions, paying \$8,360 to \$14,800.

State

More than half of the States have adopted civil service or merit systems resembling the Federal Civil Service system. The systems vary by State. Information can be obtained from the State agency having jurisdiction over recruiting and examining applicants for State positions.

Foreign service

Each year the Department of State recruits a certain number of young men and women for the Foreign Service of the United States. They may be assigned to a station in practically any part of the world. Written examinations, offered periodically, cover general ability, general background, English, and modern languages. Candidates who pass the written examination and receive security clearance also take a separate oral and a physical examination.

A State Department brochure, "New Opportunities in the U. S. Foreign Service," issued in 1955, states that the Department expects to appoint some 250 junior officers at class 6 (minimum salary, \$4,725) each year under its present program. The highest post one can reach is that of ambassador.

The State Department reported about 150 women among the more than 2,500 foreign service officers at the end of 1955. One woman career diplomat has been elevated to the rank of ambassador by presidential appointment.

Engineering*

Fully qualified engineers are in great demand. This field offers challenging opportunities for the woman student. The largest number of women are in civil engineering, followed by electrical, chemical, mechanical, industrial, metallurgical, and aeronautical engineering in that order. Training programs, including most of the cooperative engineering programs, are generally open to women in coeducational institutions.

Many phases of engineering remain to be developed, offering almost unlimited possibilities of a constructive and creative nature. These include urban redevelopment and reconstruction; new textiles and products to be created from wood and synthetic materials; redirection or adaptation of water resources with consequent implications for industrial power and agricultural production; new methods and resources for mineral extraction; and unexplored areas of nuclear energy and solar energy for power and heating purposes.

Health Services

If a girl thinks before starting college that she wants to enter *nursing*, *medical technology*, or *physical* or *occupational therapy*, she should inquire into the possibilities and choose a college or university offering programs approved by the national accrediting body for the profession. If she decides while in college to prepare for one of these fields, she should immediately inquire what courses her college offers that will be credited in the professional school, and arrange if necessary for a transfer to some other institution at the appropriate time for specialized training.

*See Additional References.

A comparatively new development in education for the health services, and one that is rapidly becoming popular, is the combination course leading, in 4 or 5 years, both to a bachelor's degree and to a professional certificate in one of several fields. These courses are of two general types. One type calls for 2 or 3 years of study in a liberal arts college, followed by a year or two in a specialized school. The other is being developed chiefly in large universities which offer a planned 5-year course in a professional field with enough cultural courses to meet requirements for a bachelor's degree.

*Nursing**

The college-trained nurse may develop a clinical specialty, such as pediatric or psychiatric nursing. On the other hand, she may move away from patient-centered care into positions of greater executive responsibility—in a supervisory or administrative capacity, or in program planning and consultant work. The economic rewards and professional prestige are generally greater for the executive and consultant nurses than for most of the clinical specializations.

There were 180 collegiate schools of nursing with 19,025 students enrolled in 1955. More than half of the training time (which varies from something less than 4 to 6½ years beyond high school) is spent in general education at the college level. The remainder is a combination of classroom work and practice in clinical fields such as general medicine, surgery, obstetrics, pediatrics, and psychiatry.

A list of accredited collegiate nursing schools can be obtained by writing to the Committee on Careers in Nursing, 2 Park Avenue, New York 16, N. Y.

*Medical technologist**

It is the medical technologist's responsibility to provide laboratory services for the physician. The work requires a

*See Additional References.

background in anatomy, biochemistry, bacteriology, mathematics, and physics, plus a knowledge of laboratory techniques. A sense of responsibility and of the importance of accuracy in details and good vision are a few of the personal traits desirable.

Eligibility for the Register of Medical Technologists, a form of certification for qualified medical technologists maintained by the American Society of Clinical Pathologists, requires 4 years of college training or its equivalent. This may consist of either—

- (1) 2 years of accredited college work followed by a course in an approved hospital school for medical technology of 12 (minimum) to 24 months; or
- (2) 4 years in a college which combines an approved hospital-school course with academic education, and which leads to a bachelor of science degree in medical technology.

*Occupational therapy**

Occupational therapy uses creative, craft, and recreational activities to help sick, injured, or disabled persons to physical and mental recovery and to acquisition of a job skill. The occupational therapist selects and carries out treatments designed to bring about therapeutic results desired by the patient's physician. In her relationships with the patient, she acts as nurse, social worker, and teacher as she tries to maintain the patient's interest in the treatment. The work calls for resourcefulness and imagination and a variety of skills in arts and crafts.

A 5-year college course leading to the bachelor of science degree and certification in occupational therapy is offered by at least 25 accredited schools and colleges. (In some cases the course may be condensed to 4 years.) To qualify as a registered occupational therapist, a graduate must also pass the national registration examination given periodically by the American Occupational Therapy Association. A person

*See Additional References.

with a bachelor's degree in another field may qualify by taking 18 months of specialized training.

*Physical therapy**

The physical therapist treats injuries, diseases, and disabilities by nonmedical and physical means such as massage, exercise, heat application, light, water, or electricity, as prescribed by the physician. She treats patients with every type of illness or condition, including cerebral palsy and poliomyelitis patients, paraplegics and amputees, the mentally ill, persons with fractures.

A 1-year certificate course is available in some schools for women who have completed 3 years of approved college training, including satisfactory courses in biological and physical sciences (general physics, chemistry, biology, plus physical education). Graduation from a school approved by the American Physical Therapy Association is necessary for admission to the Association or to registration in the American Registry of Physical Therapists.

Home Economics

A variety of positions can be filled by a woman with a degree in home economics. Many become teachers, either at the college level or in domestic science courses offered in secondary and elementary schools. Home economists are also employed as managers of institutions, extension leaders, home demonstration agents and specialists, and as buyers and consultants for stores dealing in wearing apparel and home furnishings. Some women trained as home economists work for industrial firms, such as food manufacturers or distributors, preparing educational materials on the nutritional value of this or that food product or on methods of preparing foods.

*See Additional References.

The Department of Agriculture employs a large number of women specialists in foods and nutrition in its extension program in rural areas throughout the country.

A growing field is that of writing, consulting, and research on nutrition. Many daily newspapers and national magazines—and practically all women's magazines—feature a homemaking department.

*Dietitians and nutritionists**

The total number of women employed professionally as dietitians and nutritionists was 21,059 in 1950, according to decennial census figures.

The dietitian applies the principles of nutrition to the feeding of individuals and groups. She may plan menus and special diets with proper nutritional values in a hospital, institution, school, restaurant, or hotel. Hospitals and other institutions offer the largest field of employment for dietitians.

A dietitian who specializes in the promotion of healthful food habits is called a nutritionist. For this specialty, training is needed not only in the art of feeding groups and individuals, but in the fields of nutrition, education, public health, and social welfare. Most nutritionists are employed by public health agencies, or by social welfare or educational agencies. In Federal and State agencies they provide technical consultation to health, education, and welfare workers coming into direct contact with the public.

*Commercial food service**

A new and expanding field for the graduate in home economics who has some training in business administration is food supervision and management. There are increasing opportunities for women college graduates as food supervisors and managers in hotels and in commercial restaurants and cafeterias. One woman, vice president of a chain of restau-

*See Additional References.

rants, has 90 home economists on her staff, doing research and supervising the food production departments in each restaurant.

Some large industrial firms are beginning to employ trained women as food managers in lunchrooms operated for employees. Advancement is often rapid, in part, it is said, because of the vacancies left by women who resign to be married. The pay range is wider than in hospitals and colleges.

Internship programs are offered for home-economics graduates by the American Dietetics Association; apprentice programs by the National Restaurant Association.

Insurance

Some of the women who have entered the insurance field as agents have been spectacularly successful. More than 1,700 women were members of the National Committee of Women Life Underwriters in 1956, and of these 276 had qualified for the quarter-of-a-million group, meaning that they had sold at least \$250,000 worth of life insurance within the year. Some women qualify for the "million-dollar club."

College training, although advantageous, is not necessarily required for entering insurance work. An insurance agent must be licensed in each State where she operates, and in some States it is necessary to pass a written examination in each type of insurance sold. For this reason, most beginners prefer to concentrate on one or two types of insurance.

Automobile insurance is a good field in which to start; every time an automobile is sold, the purchaser becomes a prospect for insurance. The premiums are small, however, and extensive servicing may be required. Life insurance, on the other hand, is more difficult to sell. Many prospects are reluctant to deal with a young or inexperienced agent in financial matters of such importance. However, the increased entry of women into the business world has created a new group of prospects for life insurance.

Life-insurance companies, according to the Institute of Life Insurance, employed a total of 189,600 full-time agents in 1955, of whom 5,500 were women; the proportion of women agents had decreased in a period of 2 years from 3.4 to 3.0 percent. Of the 38,500 agency managers and assistant managers, however, 500 were women—an increase from less than 1 percent in 1953 to 1.3 percent in 1955.

The qualities needed by insurance agents include a liking for people, numerous and varied contacts, ability to state a case clearly and persuasively, a strong belief in the value of what they are selling, and an inexhaustible supply of persistence and initiative—combined with mathematical facility. The agent who owns a car has the decided advantage of being able to go where her clients are instead of waiting for them to come to the insurance office.

Library Science

Library science is a profession that has been growing steadily. At present, because of a nationwide demand for trained librarians, there are especially good opportunities in cataloging, library work with children, school librarianship, and in the special library fields (particularly in science and technology). To qualify for professional library positions it is usually necessary to complete a 1- to 2-year curriculum at a library school. Professional library schools commonly require for entrance: (a) graduation from an approved 4-year college or university; (b) a superior undergraduate academic record; (c) evidence of a mastery of fundamental library techniques; and (d) a reading knowledge of at least one foreign language. A library-school graduate without previous experience can enter library work as junior librarian. This is the first grade of nonsupervisory professional positions.

Native imagination and intelligence, a flexible, inquiring mind, and the ability and readiness to persevere in any pursuit, all are qualities needed by the librarian. The profes-

sional knowledge and searching skill required of the reference librarian are developed by library school training and experience.

Some additional training in collecting, abstracting, and indexing equips a student for the more challenging and remunerative post of research or special librarian. Here, combinations of college major and minors may widen the scope and intensify her research in the special subject field. For example, a girl with a chemistry major and a language minor might be extremely valuable in the library of a chemical industry.

A librarian's responsibilities may include investigating the reading interests and demands of the people served by the library, adjusting the services to that need, publicizing the library service, and selecting and purchasing books and other material. Besides her share of the routine duties of classifying, cataloging, shelving, and circulating books, the librarian assists persons to find books and information suited to their individual interests. Thus the profession of library science offers opportunities for significant service to the public.

Mathematics and Statistics*

The general field of mathematics includes both pure mathematics, which deals with mathematical laws and principles, and applied mathematics, which utilizes the principles of mathematics in various fields such as engineering or science. The importance of applied mathematics in business, industry, and government has created a rapidly expanding demand for mathematicians, especially those with advanced degrees. Four-fifths of the employed women mathematicians included in the National Register of Scientific and Technical Personnel (1954-55) held either the master's or the doctor's degree. Opportunities increase with the level of educational attainment.

*See Additional References.

For the college graduate with a bachelor's degree based on a major in mathematics, the increasing use of electronic computing has opened up numerous interesting jobs for programmers. Other possibilities include employment as an actuarial or bank trainee. A strong secondary field of specialization often leads to a job where mathematics is used as a tool—for example, in drafting or engineering, in technical writing or editing, in market research or statistical analysis, or in biostatistics.

With industry and business competing for the new college graduate, the shortage of high-school mathematics teachers has become critical. Educational requirements for teachers at the secondary-school level vary with the State. A bachelor's degree is usually required; and an advanced degree is important for advancement. For a teaching position at the college level, the usual requirement is that a person hold a doctor's degree or be working toward one.

Statistics is a specialization of applied mathematics. Employment opportunities are most numerous in industry and government. The use of statistics has been increasing in such fields as business administration, engineering, natural and social sciences, biological and medical science, education, psychological testing, and public health. The active demand for statisticians in industry and government has given rise to an increase in the number of opportunities to teach statistics. A statistician's college preparation should include a solid foundation in mathematics and statistics, with a major in one of these fields or in a natural or social science to which statistics may be applied.

A girl with an aptitude and liking for mathematics, a logical but imaginative mind, and a passion for accuracy will find in mathematics and statistics a satisfying field for a job or for a lifetime career.

Music

It is axiomatic that those who enter the field of music do so primarily because they enjoy it and have innate talent in it. However, training is essential for success.

Preparation in a school of recognized standards provides the advantage of the reputation of the school. Many colleges and universities, as well as theological seminaries, have music departments and grant a bachelor of arts degree with a major in music or music education. The American Guild of Organists awards the title of Associate or Fellow of the Guild (AAGO or FAGO) to those passing examinations.

The field of music offers a variety of types of work, with teaching providing the largest number of jobs. A music teacher may give lessons privately in her own home, or in the homes of her pupils, or she may use a studio. With a college degree in music or music education, she may teach in public schools, or in private ones where accreditation may be less restrictive. In a college or university, if she has an advanced degree, she may teach theoretical subjects such as harmony, counterpoint, ear training, sight singing, music history, and analysis.

Music offers excellent opportunities for part-time work, which provide good subsidiary earnings. Churches employ organists, choir directors, and vocalists, usually on a part-time basis. A qualified organist can play for church services, weddings, funerals, or in department stores and skating rinks, and the pay is good for the actual performance time involved. Many married women give music lessons in their own homes; this is a convenient arrangement as they need not leave their families and can schedule lessons as time permits.

Highly competitive fields for performers with superior talent and training include radio and television, the theater, concert and opera stage, orchestral work, and entertainment. The music critic is more interested in the academic aspects of the history and appreciation of music than in performing

herself. A newer field for musicians is that of musical therapy, used increasingly in hospitals for mental patients and in institutions for the maladjusted.

Whatever her specialty, a woman musician is welcomed in recreational, community, and welfare activities as a volunteer worker, and may find earning opportunities—on playgrounds, in adult-education projects, or in YWCA and Red Cross.

Music is a popular vocational field for women and has a relatively high standing among professional and technical occupations of women. With a total of 77,844 women employed or self-employed, it was third largest in 1950 according to the decennial census. Women constituted half of the workers in music, and their numbers had increased 31 percent, or 18,388 since 1940.

Physical Sciences

Of the several physical sciences, only two are discussed here: Chemistry, which attracts the largest number of women; and physics, where the shortage of qualified workers is most acute.

Chemistry

The number of chemists and chemical engineers nearly doubled from 1940 to 1950, and the demand still exceeds the supply, particularly in some fast-growing industries.

A survey made in 1951 by the Bureau of Labor Statistics covered more than half of all the chemists in the country. Some 7 percent (3,900) were women. About half of the women chemists were employed in manufacturing industries, chiefly in firms manufacturing organic and inorganic chemicals, drugs and medicines, and food and kindred products.

Of the women chemists, 37 percent were doing research, 31 percent were employed in analysis and testing, and 19

percent were teachers, and the others were in miscellaneous jobs.

There are very few women chemical engineers, a field which is in need of trained people.

Physics

There were 208 women among the 6,597 members of the American Institute of Physics reported by a survey of manpower resources in physics in 1951 made by the Bureau of Labor Statistics and the Office of Education.

Over half of the women physicists were employed in colleges and universities; about one-fifth by business firms; and nearly one-fifth by Government agencies or nonprofit research organizations.

About two-fifths of the women reported general physics as their field of highest competence. Among women reporting a specialty, the largest number were in optics, nuclear physics, or atomic and molecular physics. A small percentage of women specialized in electronics and acoustics, where employment opportunities for women should be excellent.

Public Office

The welfare of our country requires the general participation of women in political affairs through voting and through volunteer service. It is equally important to increase the number of well-qualified women serving in elective and appointive offices where local, State, national, and international policies are formulated. Public office is often achieved after a person has become known in a certain field, such as law, newspaper writing, business management, political science, teaching. Sometimes such a specialized background leads to an appointive position on the local, State, or Federal level. Service in a local or State position is excellent preparation

for work on the national level, and experience gained in appointive posts can be a valuable asset to a person seeking elective office.

A woman who runs for an elective office usually finds that the campaign involves a tremendous amount of hard work—traveling, speaking several times a day, meeting and remembering hundreds or thousands of individuals. There is probably no more satisfying field for a person strongly motivated to exert an influence on contemporary affairs.

A college woman whose goal is in the political field will want to stress courses such as public administration, government, history, economics, and finance. English and public speaking, as well as training in law, provide an excellent background for a career in politics.

During college, some experience can be obtained by campaigning for campus offices, conducting drives, and doing volunteer work for a political party. Participation in a group providing leadership to stimulate the interest of women in current political issues can provide some practical experience. An outstanding nonpartisan organization in this field is the League of Women Voters.

Real Estate

The largest field for employment in real estate is salesmanship—the buying and selling of land, houses, and commercial properties. In 1950, about 14 percent of all real estate agents and brokers were women.

Real estate is a highly individual business, because no two buyers have exactly the same needs; and it is also a highly competitive business.

The real estate salesman must have a detailed knowledge of the neighborhood and of the physical, legal, and financial factors affecting the property. The beginner is advised to obtain extensive experience through employment in the office

of an established real estate firm before branching out on his own. The local real estate board is the student's best source of information on possible openings. Remuneration is usually on a commission basis.

A college degree is not usually required to enter real estate work, but specialized technical training is desirable, and a good general education stressing English and mathematics will help. With experience, a real estate salesman may develop a specialty—real estate appraisal, real estate law, property management, or farm land brokerage, for example.

To protect the client, most States require the licensing of real estate brokers and salesmen, and some require candidates to pass a competency test. Information on States that require licensing and on real estate courses offered by universities and professional groups can be obtained from a pamphlet, "Preparing for the Real Estate Business," issued by the National Association of Real Estate Boards, 22 West Monroe Street, Chicago 3, Ill.

Research

Research is the key to new knowledge. It is the solid foundation on which scientific, historical, and psychological discoveries are based, and the touchstone by which every new hypothesis or theory must be tested before acceptance. No field of work offers more satisfying results—and none is more exacting in its requirements of accuracy, patience, and objectivity. The novice in research must expect to work anonymously, usually as the member of a team.

Research jobs in almost any field of specialization are open to college women who are properly trained in research techniques. Some executives consider women superior to men as research workers, and a woman can reach the top rank on a research staff.

The survey of women in administrative positions reported in the *Harvard Business Review* (Jan.–Feb. 1953) found a growing

appreciation of women in research positions in large establishments of many kinds: Technical research positions in the laboratories of big food and chemical companies; statistical and economic research jobs in nearly all large business organizations. There are also research positions connected with magazines, advertising firms, national political party organizations, and the large foundations. The Government employs many research workers, as do colleges and universities.

A girl who plans to become a research worker will need a sound background in methodology and statistics, combined with specialization in a subject-matter field such as one of the social sciences. Research techniques developed in one field of study can usually be utilized in other fields.

Secretarial Work

Many cities report a chronic shortage of first-class secretaries, and a college-trained woman who has mastered typing and shorthand can become a secretary *par excellence*, especially if she majored in English.

Among college women, a secretarial job has been regarded traditionally as a springboard to many kinds of professional and executive jobs—for example, in the publishing or banking business, and in editorial and personnel work. However, it may take as much ability, determination, and initiative for a college woman to advance into professional work *with* secretarial experience as *without* it.

A recent analysis of openings for college women as secretaries in New York City, made by a firm of management consultants, appeared in the *Journal of College Placement* for May 1955. A college graduate without experience can qualify, according to this article, for a job as clerk, receptionist, or typist; with 1 year's experience, for a secretarial job; with 3 to 5 years' experience, for a job as executive secretary—usually among the highest paying jobs in the clerical field.

A woman who has taken some stenographic courses in the legal or medical field may also be able to earn a higher salary than the average secretary.

The Institute for Certifying Secretaries admits a college graduate to examination on the basis of 3 years' experience; a graduate of a business college or junior college, with 4 years' experience; or a high-school graduate, with 6 years' experience.

The National Secretaries Association offers secretaries the advantages of a professional association. Its aim is to raise the standards of secretarial work through social and educational activities.

Securities Merchandising

Several hundred women are classified by the Association of Stock Exchange Firms as "registered representatives" of member firms. These women brokers have passed an examination in analysis of balance sheets, earnings statements, and procedures in purchase and sale of securities; and they have agreed to maintain a high standard of ethics in dealings with those who buy and sell securities. Some women are general partners of member firms, and others are "limited partners" (supplying capital only). In 1956 a woman became the president and board chairman of a brokerage house in the New York Stock Exchange.

This type of work requires an analytical mind and an aptitude for mathematics. Good contacts with institutions which specialize in investment research and fund investment are an asset. To a large extent, success in this field is dependent on the customer's confidence in the broker. As stocks and bonds are often bought and sold over the telephone, integrity, good judgment, and quick comprehension are important qualities. In order to be able to give investment advice to those who need it, a broker should have a broad enough background in economics and history to be able to understand and interpret business trends.

Financial remuneration is determined by the amount of business the broker produces. A tremendous field for development, and one where women brokers should be especially successful, is that of advising women on investments.

The New York Stock Exchange is the leading organization for marketing the securities listed with the Securities and Exchange Commission. Its member firms have offices in some 425 cities in the United States, and a few in other countries. There are, in addition, 14 other registered stock exchanges in the United States.

Social Work*

Social work, like nursing and teaching, attracts women who value the opportunity to be of service to others. For this field, a master's degree is desirable, based on 2 years of study in an accredited school of social work. However, many social-work agencies make a practice of taking liberal-arts graduates as case aides and helping them to complete their graduate training through a work-study or scholarship plan. The added maturity and experience gained through such a plan are an asset in social work.

For this field a broad liberal-arts foundation is indicated, with stress on social sciences such as economics, sociology, psychology, anthropology, and history; and on biological sciences. English and statistics are valuable tools, and at least one foreign language is desirable, as well as orientation courses in social work.

Specialties in the social-work field offer a wide range of choice. The original social-work field—casework—is still the largest, with opportunities throughout the country in communities of all sizes. The social caseworker is the backbone of the social agency, whether public or private; she may specialize in work with *families* or with *children*.

*See Additional References.

Both *medical* and *psychiatric* social work are rapidly expanding fields. For example, in hospitals, clinics, and health centers, medical social workers work with doctors and nurses to help patients or their families deal with personal problems resulting from illness or disability. Opportunities for advancement are good. Over two-thirds of all social workers are women. The Council on Social Work Education reported thousands of vacancies in 1956.

Other specializations in social work include *group work*; *community organization*; and *administration, teaching, research*. Some of the newest and most rapidly expanding branches are group work in youth-serving agencies, schools, and hospitals, and work with the aged; and community organization work with community chests, welfare councils, social-service exchanges, and volunteer bureaus. Most positions in these specialties are in the larger cities.

Teaching

More women are engaged in the various fields of teaching than in any other professional occupation. In 1950, the Bureau of the Census reported:

<i>Occupation</i>	<i>Number of women</i>
Teachers (not elsewhere classified).....	834,996
College presidents, professors, instructors (not elsewhere classified).....	28,907
Music teachers and musicians.....	77,844
Art teachers and artists.....	29,566
Dancing teachers and dancers.....	11,438
Sports instructors and officials.....	11,133

A demand for more well-qualified teachers is assured for some years to come. Beginning with 1952, each year has brought large increases in school enrollments. By 1960, when the first group of postwar children reach the ninth grade, the 4 million babies born in 1954 will be ready for kindergarten. Thus, the need for additional teachers, first

felt in the elementary schools, will soon be equally acute in the secondary schools, and the colleges and universities.

The National Education Association estimates that some 175,000 new, fully qualified teachers would have been required in the fall of 1956 to take care of increased enrollments and teacher losses, to reduce teacher loads to acceptable standards, and to make a reasonable reduction in the number of emergency teaching certificates.⁵ To meet this need, it was estimated that 106,411 men and women graduated from colleges and universities in 1956 would be prepared to meet the certificate requirements of their States. This was an increase of not quite 10 percent over 1955. The number prepared to teach in elementary schools rose only slightly (3.1 percent), but the number equipped to teach in secondary schools showed a substantial rise of 15.4 percent. This increase applied to all fields of teaching and was especially marked in the fields of science and mathematics, where the teaching shortage has been most acutely felt.

A 4-year college course as the minimum standard preparation for teaching at any level has gained rapid acceptance during recent years. A bachelor's degree is now the minimum educational requirement in more than half of the States for new teachers wishing to obtain a regular certificate at the *elementary-school* level. For a *high-school* certificate, a college degree is required in 45 States, with a specified number of semester hours in professional education and also in the teaching fields selected. The State requirements in professional education range from 9 hours to 27 hours, in addition to practice teaching under supervision.⁶

To become a college instructor the undergraduate should specialize in a selected field and then work toward a master's degree. The student who plans to become a college professor will need a doctoral degree and a number of years of teaching

⁵ "A Brief Summary of the 1956 Teacher Supply and Demand Report," *The Journal of Teacher Education*, March 1956.

⁶ A Manual on Certification Requirements for School Personnel in the United States. National Education Association of the United States, 1201 Sixteenth St., N.W., Washington 6, D. C. 1955 edition. 176 pp. \$2.

experience at the college level. Many colleges and universities offer a limited number of teaching fellowships and part-time assistantships for graduate students. (See page 42.)

College women, even if they do not intend to teach, would be well advised to include in their major field of specialization the basic subject-matter courses required for teaching. This is a superior sort of occupational insurance, as the demand for well-qualified teachers continues to grow.

Writing and Editing

The writing field covers dozens of occupations, of which literary authorship is only one. The 6,059 women classified as authors in 1950 are far outnumbered by the 28,595 women editors and reporters. Most young college graduates whose interests lie in the writing field are wise to plan on acquiring some years of experience on a salaried basis before attempting to market their own products as free-lance writers.

Newspapers and magazines, advertising firms, and radio and television stations can usually take their choice of the graduating class as trainees, so superior preparation is a great asset. Usually newspapers prefer journalism graduates or persons who obtained practical training on the staff of a college periodical.

There are many other writing jobs that offer a good future. A college girl who wants to be a writer will greatly improve her job prospects by building up a second strong specialty. Whatever field she chooses—art, history, home economics, languages, psychology, the sciences—will open up a whole new field of possibilities. Journalism courses are one approach, but not necessarily the only one. A fashion designer or nutrition expert may get a writing job as readily as the graduate of a journalism course.

Writers and editors are employed on the trade journals and company publications published by manufacturing, trade, business, and public utility firms; on religious, farm, and children's magazines; and in government agencies to prepare reports, bulletins, and articles.⁷

Publicity

Publicity and public relations work have provided a rapidly expanding field for writers within the past generation. Most organizations and firms have a public relations staff, and every Government agency has its information specialists. Requirements for this field vary with the job, but usually include facility in writing and speaking, a liking for people, and a flair for new and graphic turns of expression.

Editing

There is a large and steady market for experienced editorial workers, as practically all publications—books, magazines, newspapers—pass through the hands of an editorial staff. An inexperienced person may start as editorial clerk or assistant. A liberal arts background is desirable, with emphasis on English usage and writing techniques. Knowledge of printers' terms and printing processes, layout and design, and proof-reading may be acquired through courses in journalism or on the job. Editors often do a good deal of writing, but except at the top level they are likely to work anonymously or as members of a team.

Technical writing and editing

Some interesting opportunities exist for the woman who combines proficiency in almost any scientific, technical, or

⁷ Middlebrook, L. Ruth. *Careers for English Majors*. New York University Press, Washington Square, N. Y. 1954.

engineering field with a thorough training in writing and editing techniques.

Technical editors are needed by firms publishing technical books, professional journals in every branch of science, and trade journals. The technical editor has become essential to almost all organizations engaged in research and development. For this field, skill in the use of language as a means of communication must be acquired together with training in mathematics, photography, drawing, and the construction of tables and charts.

There is a wide field, also, for writers with a technical background who can present new scientific developments in non-technical language for the general reader.

To equip students for highly technical editing, at least one engineering school offers a course leading to the degree "master of science with a major in technical writing." Candidates must hold the bachelor's degree in science or engineering and must continue this training at the graduate level. In addition, the students receive a thorough grounding in writing and editing.⁸

⁸ See *Journal of Engineering Education*, "A Curriculum for Technical Editors," by Christian K. Arnold, Nov. 1954; "Graduate Curriculum in Technical Writing," by S. P. Olmsted, Mar. 1955.

Job-Finding Techniques

THE STEPS involved in getting a job include some or all of the following:

1. Preparing a personal folder
2. Canvassing the possibilities
3. Submitting an application
4. Making the most of the interview
5. Choosing your job
6. Reaching an agreement with the employer

Preparing a Personal Folder

Gather together pertinent information on yourself and your qualifications to be taken on interviews, sent with letters of application, or supplied upon request. Obtain several copies of all your papers, since you will probably have to leave a set with each application. Clean copies of all typed material should be available. Smudged, wrinkled carbons or a date long past give a very poor impression. If you ask to have your papers returned, you should supply a self-addressed envelope of the proper size and with sufficient postage.

Your personal folder should contain—

- **a résumé of your training, experience, and other details. A sample form and suggestions for preparing this résumé are given on page 34.
- **a detailed list of your courses, with emphasis on those that qualify you for the type of position you want.
- **your official academic record, or transcript of credits, if the registrar's office of your college will supply it to you. Some colleges will send a transcript only to the prospective employer. There may be a small charge to you for this.

- **copies of any published news reports of awards you have received or important professional or academic achievements; published stories, articles, or technical papers you have written; or examples of art work. Clippings should show source and date.
- **references. The employer will usually ask for these. Before you use anyone's name as a reference it is businesslike and courteous to request his permission to do so. Make sure that all names are spelled correctly and that addresses and official titles are up to date and given in full.
- **any other pertinent data. It is probably not necessary to give such personal or irrelevant information as your religious affiliation; if an employer wishes to know, he will ask you. In fact, the Federal and certain State governments are not permitted to require such information. If you supply a photograph, it should be small (about 2'' x 3'') and show only your head, with no hat. If the neckline of your dress shows, it should be of the tailored, business-dress type rather than the low-necked, formal variety.

NOTES ON PREPARING THE RÉSUMÉ

Allow plenty of time to prepare your résumé. It will be highly important to an employer's decision.

Under *student activities*, list any offices you have held in your class, student-government organization, YWCA, and special-interest clubs. These often reveal potentialities for leadership, financial management, or organizing.

Under *work experience*, list briefly tutoring and part-time work in college offices, libraries, laboratories, or residence halls; also vacation jobs (as camp counselor, for example); military service; and unpaid work such as teaching in church school, working with Girl Scouts, etc. Attach an extra page if you need to do so.

Special skills and interests are important. Such skills as typing, driving a car, using a foreign language, or playing a musical instrument may provide the extra factor that tips the scales in your favor.

FORM FOR RÉSUMÉ

Name (Miss)
(Mrs.)

Current address
..... Phone

Permanent address
..... Phone

Date of birth Height Weight

Date available to start work

EDUCATION

Secondary school Dates

College Dates

Degree Major

Minor

Scholarships

Academic honors and honor societies

Student activities

WORK EXPERIENCE

Employer (firm)

(supervisor)

Address

Business

Nature of your work and whether part time or full time

Starting date of job Closing date

Amount earned

Special skills and interests

Professional affiliations

List of accompanying documents

.....
.....
.....

Canvassing the Possibilities

Next, make a preliminary canvass of prospective positions. For this, you may wish to—

- **register with one or more employment agencies, such as your college placement bureau, the local office of the State employment service, a commercial employment agency, or the placement office of any professional organization to which you may belong. The most important source of job leads for women newly graduated from college is their college or university placement bureau, according to a recent study made by the Women's Bureau.
- **make contact with former employers, if you have worked before, and you think they might have an opening for you.
- **file for civil-service examinations (Federal, State, municipal) at the appropriate civil-service agency.
- **scan the "help wanted" advertisements in newspapers and professional journals. These will give you a realistic idea of current openings and salary rates in some fields.
- **ask for suggestions from friends and relatives who may be in a position to know of openings.
- **attend interviews on campus. Some time in your senior year you may be interviewed by representatives of large firms or of the Federal Government who visit colleges in search of promising June graduates. To be in readiness for such meetings, it is advisable to prepare your personal folder early in the year.

Find out as much as you can about each job in which you are interested. You will want to check the requirements of these jobs against your qualifications carefully and objectively. If you decide to apply, and the employer considers your application seriously, he will proceed to evaluate your abilities in the light of the duties he wants performed. If you lack some of the requirements, he may think that they can be developed on the job or that the lack may be offset by other qualifications you possess.

Submitting an Application

When you have some leads—or at least one—you are ready to approach an employer. You will probably do this

by letter or by telephone, stating briefly your interest in a job and your qualifications, and requesting an interview.

The letter of application

The employer may receive dozens of applications in any given week; what do you want him to remember about yours? It is more likely to receive consideration if the letter—

- **is addressed to an individual by name, rather than merely to the firm. If you do not know whom to address, your first inquiry (by letter or telephone) may properly be merely a request for this information.
- **shows a genuine interest in the work of the organization and in the position for which you are applying.
- **points out how your qualifications meet the specifications for this particular job.
- **is brief (all on one page). Your résumé can be enclosed with the letter to supply the details on your background.
- **is neatly typewritten and conforms to good letter-writing style.

The approach by telephone

This is useful especially—

- **to arrange for an appointment.
- **to ask for routine information.
- **when quick action is necessary, as in the case of a job that has been open for some time and will soon be closed to further applications.
- **when requested by the employer in an advertisement or through a placement agency. If you are asked to give your qualifications over the phone, send a confirming letter enclosing your résumé. You want to be sure that the record of your application is complete and accurate.

Making the Most of the Interview

When you are granted an interview, you have the opportunity of showing the employer, or the person representing him, that *you* are the *person for the job*. He will be in control of the interview, and will probably ask most of the questions.

Listen attentively to everything he tells you about the firm and its work, in order to make up your mind whether you would like the job.

A good first impression is essential. This means not only good grooming and neatness, but a courteous and alert manner.

It is desirable to—

- **be on time for the interview. This is a “must” for you, but sometimes a busy executive will have to keep you waiting. Be prepared to wait if necessary.
- **know enough about the firm so that you can show an informed interest in it. Make sure you have the name of your interviewer. If necessary, ask his secretary for it.
- **ask relevant questions about the work, indicating your interest in what you can contribute as well as in what the employer can offer you in salary, working hours, vacations, etc.
- **show frankly that you want the position, and why.
- **be concise and direct in your answers to questions.
- **be responsive to any signal that the interview is over.

After the interview, if the employer does not get in touch with you within the time he specified, it is generally appropriate to follow up on your application, perhaps by offering to provide additional information about your qualifications. Remember, however, that there is a fine distinction between showing the proper interest and making a nuisance of yourself.

If an application does not prove successful, you can still profit by analyzing and improving your approach. You may even decide to alter your objective or take additional training before applying for another job. Or the interviewer may call you later if a job develops for which he feels you are better qualified.

Choosing Your Job

If you are fortunate enough to have more than one job offer, careful thought should go into your decision. There are many factors—large and small—which can affect your

satisfaction with a job. Salary is not the only one, especially if the difference between the starting pay of two jobs is small.

Other factors to be considered are—

- **the opportunity to learn, develop useful skills, and advance professionally.
- **the people you meet on the job.
- **distance from where you will be living, and expenditure of time and money involved in transportation and lunches.
- **“fringe” benefits in the form of vacation and sick leave; provisions for hospitalization and other forms of insurance; and retirement benefits.
- **long-term satisfaction in your contribution to society and to the advancement of your ideals.
- **permanence and security over as long a period of time as you may need it.

You may find it helpful to draw up a chart for yourself, comparing the advantages and disadvantages of each job under consideration. The objective advice of qualified counselors, friends, and relatives may help you.

It is good business practice to keep a carbon copy of every letter you send out. If your job should prove unsatisfactory, you may want to follow up later on other leads. As you move from one job to another, even if you stay with the same firm, you should make a record of the date the job started and ended, your salary, what you did on that job, and the name and title of your supervisor.

Reaching an Agreement With the Employer

It is not safe to assume that the job is yours until you have a definite job offer from the employer. Be sure you have a clear understanding of what will be expected of you; when and where to start work; and what your initial salary will be.

Once you have accepted a job, give it a fair trial. Give it a little time to develop. It may prove to be one of the most worthwhile experiences of your life, as well as a major step toward a rewarding and successful career.

Some Practical Considerations

The Job Market

How is the young woman student to find a place for herself among the 70 million men and women making up the Nation's work force? Where should she look for a job that will offer full scope to her training and abilities and be productive of real values?

Personal leanings are important; so are some other considerations. The choice between two or more equally attractive professions may depend on—

- ***status of the occupation.* An occupation which is expanding, i. e., electronics, may be easier to enter than one which is already stabilized; but the stabilized occupation may offer greater security.
- ***status of women in the occupation.* In professions where women predominate, such as nursing and teaching, well-qualified women are always needed, and usually can advance to higher level jobs in the course of time. In professions where women are a small minority, as in engineering, it may take more initiative and ingenuity (as well as top qualifications) to get a foothold; but the woman who makes the effort may find it highly rewarding.
- ***versatility.* In these days of rapid technological and cultural change, it is an advantage to acquire skills that can be used in more than one occupation, or in an occupation that requires a variety of skills. Facility with a typewriter may open the door to newspaper work, for example.
- ***general employment picture.* When the economy as a whole is prosperous, jobs are plentiful in luxury and personal service fields. In a recession, occupations meeting basic needs are usually the least affected.

Earnings

Although it is only one of several factors to be considered in choosing an occupation, the subject of earnings is sure to be of interest. It is desirable to consult advisers, experienced persons in the profession, and available literature not only as to starting pay but as to salary at various levels and prospects for advancement.

In general, of course, a well-qualified woman with a sound educational background will command a higher entrance salary and will advance more rapidly than one with less adequate preparation.

In this pamphlet, detailed information on remuneration has been omitted for several reasons:⁹

- (a) The only nationwide figures available on earnings are those issued by the Bureau of the Census. The latest census estimates on earnings by major occupational group are for 1955. Average earnings of women employed full time throughout the year were \$3,500 in professional and technical occupations and \$3,065 in clerical and related occupations. The latest data on earnings in individual occupations by educational level are for the decennial census of 1950.
- (b) Average earnings are likely to be misleading, as they conceal the extremely wide range of individual salaries. Examples of spectacular instances of high earnings are even more misleading, especially to a person looking for her first job.
- (c) Differences between rural and urban rates, and between one geographical area and another, introduce endless complications.

Other considerations which may influence the choice of a job are retirement programs, job security provisions, and any special benefits (health and insurance plans, profit-sharing plans, and so forth) which the company or organization offers. Although these may not seem significant in selecting a first job, they become more important later.

⁹ However, starting rates under Federal civil service, which are established by law and apply throughout the country, are given on pages 8-9.

College students may wish to consider several alternative types of employment within their field of specialization. For example, they may wish to become teachers, or to work in private industry, or to work for the Government or for a nonprofit organization. Chapter 1 offers some suggestions to aid their thinking. What data are available indicate that there are significant differences in probable earnings among these fields of employment.

A social scientist, for example, may enter the educational field, private industry, or Government employment. A 1952 study by the Bureau of Labor Statistics (Bulletin 1169) supplies data on the earnings of 15,000 social scientists and 7,800 humanists in 14 fields. In most of these specializations, salaries were higher in colleges and universities than in other educational institutions, in Federal Government than in State and local government, in private industry than in nonprofit organizations.

Graduate study is the most direct road to professional advancement in the social sciences. It is more essential now than it was a generation ago. The Ph. D. group, on the average, earned considerably more than the groups with only the master's or bachelor's degree. In four fields—economics, sociology, statistics, and geography—median salaries were from \$1,500 to \$1,800 higher for the Ph. D.'s than for those having master's degrees. The percentage of workers who were women ranged from 24 percent in anthropology to 6 percent in economics. The highest paid women were economists with the Ph. D. degree.

Graduate Study

As the number of college graduates in the population increases, graduate degrees become more and more essential for professional advancement. Many new graduates who hope eventually to continue their studies, however, prefer to gain some work experience first, and in many fields, such as social work and teaching, this is encouraged. The important thing is to recognize the various alternatives and to have in mind a plan which is firm enough to prevent drifting and flexible enough to allow room for growth and change.

Ways to finance advanced study can usually be found by persons of ability and determination. There are various possibilities: Research or study fellowships, teaching fellowships, special loan funds, and part-time jobs. Twenty-five percent of all graduate students in the United States received financial assistance in April 1954 in the form of fellowships, teaching and research assistantships.¹⁰ Many social-welfare and health agencies have resources to help staff members undertake part-time study or to provide for educational leave. Some business firms encourage career employees to take special training, and may help finance such training.

Government fellowships

Government funds are available for graduate study and research fellowships in certain fields. Through the National Institutes of Health, Division of Research Grants and Fellowships, Bethesda, Md., the Federal Government awards fellowships for graduate work at predoctoral and postdoctoral levels. These fellowships are for research in public health, medical, dental, nursing, and related health fields including mental health, cancer, and heart disease.

For research in the natural and physical sciences, the National Science Foundation awarded 715 predoctoral fellowships for 1955-56.

Grants for study abroad were awarded to 979 American students in 1955 under the State Department's Educational Exchange Program. The majority of these grants were under the Fulbright Act of 1946. The fields represented include the various branches of physical and natural science, social science, the humanities, and education.

Nongovernment fellowships

Most colleges and universities that grant advanced degrees have some teaching fellowships for qualified graduates. In

¹⁰ "Highlights of a Survey of Graduate Student Enrollments, Fellowships, and Assistantships, 1954." Scientific Manpower Bulletin, National Science Foundation, July 29, 1955.

this way a graduate student can be self-supporting while working for her master's or doctor's degree and acquiring teaching experience. Many institutions also award a certain number of full-time study fellowships. For example, the Harvard School of Public Health has initiated a scholarship program to encourage graduates in medicine, dentistry, veterinary medicine, public health nursing, health education, and other health services to specialize in public health and preventive medicine.¹¹

Grants for graduate study may also be obtained from other sources, such as private foundations, women's organizations, national sororities, and religious and civic groups. The General Federation of Women's Clubs and the American Association of University Women, for example, have extensive fellowship programs.

Sources of information

Fellowships for graduate study, as well as undergraduate scholarships, are available for study at one or more institutions of higher education in almost every State. These are listed in a catalog issued by the Office of Education,¹² showing the money value of the fellowships, and other necessary information.

Information on sources of research and training fellowships in the social sciences can be obtained from the Social Science Research Council (726 Jackson Place, NW., Washington, D. C.); and on research fellowships in economic, political, and social sciences from Brookings Institute (722 Jackson Place NW., Washington, D. C.)

Information on what fellowships are offered in your field of study, and how to apply for them, may be obtained through your own college or from the appropriate professional association.

¹¹ "Opportunities for Women in Medicine," *Journal of the American Medical Women's Association* 10: 177-179 (May 1955).

¹² Scholarships and Fellowships Available at Institutions of Higher Education. 1951.

Degrees earned by women

In all fields, a total of 103,799 women received the bachelor's degree (or first professional degree, including M. D. and D. D. S.) in 1954–55.¹³ The master's degree was earned by 19,464 women, and the doctor's degree was earned by 826 women. This means that one woman earns a doctor's degree for every 25 women who earn a master's degree. Twenty-nine percent of the graduate students enrolled in 1955 were women.

Three-fourths of all school teachers are women, and the number of women receiving the bachelor's degree in education in 1954–55 was five times as large as the number of men (36,000 compared with 7,500). Nevertheless, only one-fifth as many women as men (228 compared with 1,128) received the doctor's degree in education.

Marriage and Career

According to a recent survey, 80 percent of the women graduates from college were employed a few months after graduation, most of them on a full-time basis. Nearly half of the remainder were full-time students (and presumably intended to practice their professions later). Most of the others were full-time homemakers. These figures are based on a survey of women graduates of June 1955, made by the Women's Bureau and the National Vocational Guidance Association.

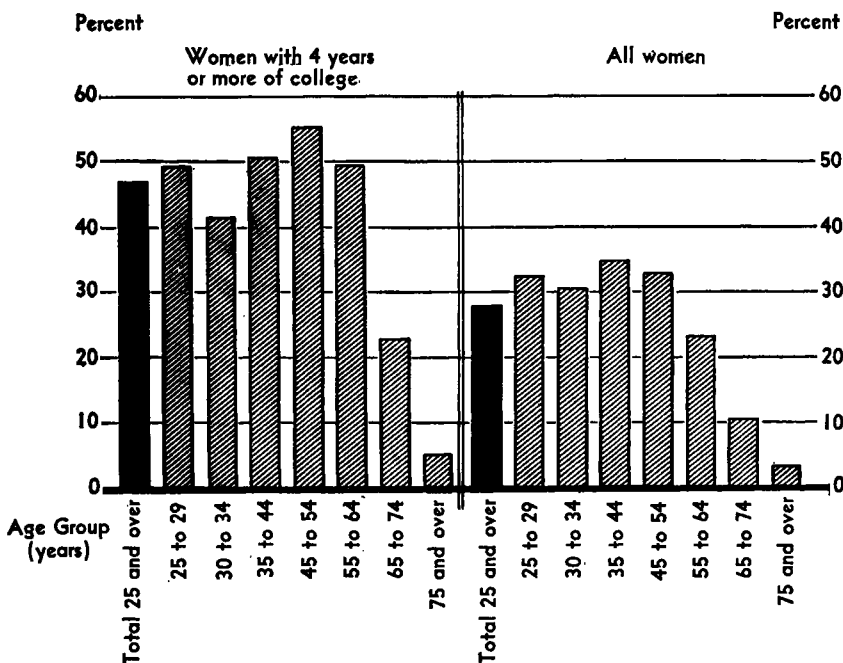
Experience shows that many of the employed graduates will later become full-time homemakers; and that quite a few homemakers will return to employment, either full time or part time.

According to decennial census figures, 28 percent of all women 25 years of age and over were working in 1950; among

¹³ Earned Degrees Conferred by Higher Educational Institutions, 1954–55. Office of Education, U. S. Department of Health, Education, and Welfare. 1955.

college graduates, 47 percent were working. In fact, in each of the age groups 25 years and older, the proportion of college women who were in the labor force was significantly higher than the proportion of all women in the labor force (chart 1).

CHART 1.—PERCENT OF COLLEGE WOMEN AND OF ALL WOMEN IN SPECIFIED AGE GROUPS WHO WERE IN THE LABOR FORCE, 1950.



Source: U. S. Bureau of the Census.

Women students may wisely plan their courses with a view to qualifying themselves for a job which will satisfy them. Training of this type is advantageous either for employment for a few years after college, or for a career that may develop into professional achievement of a high order, or for a continuing interest that may at any time be reconverted into profitable employment.

There are various ways for a woman with a profession or specialized skill to keep in touch with her field during the years when homemaking and motherhood take most of her time.

She can retain her membership in professional associations, subscribe to technical journals, correspond with former coworkers, perhaps attend annual conferences.

She can find some way to practice her skills. For example, a pianist might play accompaniments for a dancing class, a teacher might do tutoring or serve as a substitute teacher.

Whatever her specialty, the professional woman might do independent research, writing, or consultation work on a part-time basis.

If, then, she becomes a full-time worker again at any time, her knowledge and skills will be up to date and ready for use.

Women on the Job

OUR complex modern society has created a vast number of specialized jobs and occupations, and women work in most of them.

To provide some perspective on the situation, a summary is given here of the occupations of women—and especially college women—in the economy of the United States.

Only once in 10 years are nationwide figures available on the detailed occupations of women. Our information, therefore, is based on reports of the decennial census of 1950, issued by the U. S. Bureau of the Census.

Occupations of Employed Women

Educational background appears to be an important factor in determining whether or not a woman is employed in a professional capacity.

The circle charts (see chart 2) show the occupational distribution in 1950 of employed women 25 years of age and over at three educational levels.

Professional and technical jobs

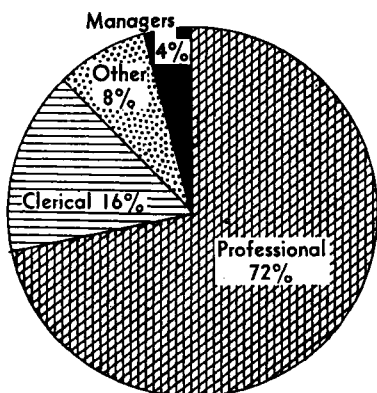
The majority of women college graduates who were in the work force were in the professional and technical group—72 percent. Among those with 1 to 3 years of college training, 36 percent were in this group, and among those with no college training, only 4 percent.

Clerical and related work

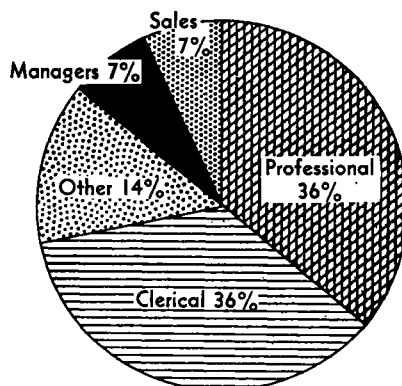
Women with 1 to 3 years of college training were equally divided between clerical work and professional work, with

more than one-third in each. Clerical work also drew 16 percent of the college graduates. Among the employed women without college training, or with less than 1 year, 23 percent were clerical workers; but this group is much larger numerically than the college groups.

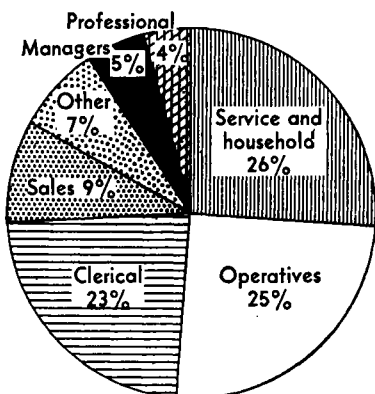
CHART 2.—OCCUPATIONS OF COLLEGE AND NONCOLLEGE WOMEN, 25 YEARS AND OVER, 1950.



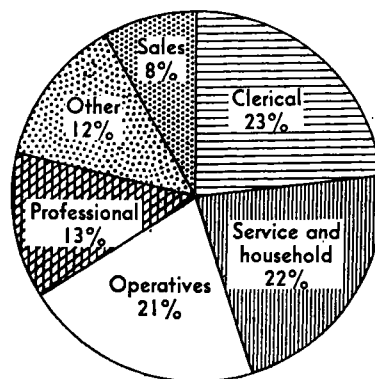
With 4 Years or More of College
1,053,840



With 1 to 3 Years of College
1,177,800



With No Years of College Training
9,592,620



At All Educational Levels,
Combined 12,074,070

Source: U. S. Bureau of the Census.

Operatives

College women seldom are employed in operative jobs, but one-fourth of the employed women without college training work as operatives, mostly in factories.

Managers, proprietors, and officials

This is the only major occupational group for women that shows no relationship to level of education. Only a small percent of the employed women at any educational level were in the managerial group: 4.4 percent of the college graduates; 6.8 percent of those with 1 to 3 years of college; and 5.2 percent of the noncollege women. The explanation may lie in the wide range of occupations in this group, which includes the woman who manages a lodging house as well as the head of a bank.

Women in Professional Occupations

Nearly 2 million women were employed in 1950 in the 56 occupations listed under "professional, technical, and kindred workers." This was about 1 in 8 of all women then employed.

Four-fifths of the professional women were employed in seven occupations, as—

- school teachers
- professional nurses
- musicians and music teachers
- social workers (all types)
- accountants and auditors
- librarians
- medical and dental technicians

In each of these seven occupations, the number of women employed was at least 10,000 more in 1950 than in 1940. Two other occupations also gained over 10,000 women during the decade—

- artists and art teachers
- editors and reporters

Half a dozen other occupations, which had never before been sufficiently important to be listed separately, were each employing from 5,000 to 50,000 women by 1950—

- dietitians and nutritionists
- testing technicians
- personnel and labor-relations workers
- social scientists
- recreation and group workers
- natural scientists (not elsewhere classified)

Rapidly expanding employment opportunities for women were indicated in some other professional and technical occupations, where the number of women more than doubled from 1940 to 1950. These include some fields which formerly were chiefly entered by men—

chemists	pharmacists
clergymen	radio operators
draftsmen	surveyors
engineers	veterinarians

Additional information on the numbers of women employed in professional occupations can be found in Women's Bureau Bulletin 253, "Changes in Women's Occupations, 1940-1950." This report also gives information on women employed as managers, proprietors, and officials; in clerical work, crafts, and farming; as sales workers; and in service occupations. The 1956 Handbook on Women Workers (Women's Bureau Bulletin 261) gives trends in women's employment and occupations as of April 1956.

College Women in the National Economy

College graduates account for nearly half of all women in professional, technical, and kindred occupations; women with 1 to 3 years of college training account for another fourth. The remaining fourth includes many nurses who obtained their training in a hospital school.

*Percent of employed women 25 years of age
and over who have—*

<i>Occupation group</i>	<i>4 or more years of college</i>	<i>1 to 3 years of college</i>	<i>No college training*</i>
All occupations.....	9	10	81
Professional, technical workers.....	47	26	27
Clerical workers.....	6	15	79
Managers, officials, and proprietors (except farm).....	7	13	80
Salesworkers.....	3	8	89
Farmers and farm managers.....	3	5	92
Craftsmen, foremen.....	3	5	92
Operatives.....	1	2	97
All other.....	1	4	95

*Or less than 1 year; also includes those not reporting school attainment.

Source: U. S. Bureau of the Census. 1950 Census of Population.

Professional women are recruited chiefly from the colleges, universities, and professional schools. On the graduates of these schools, past, present, and future, rests a major responsibility for the record of professional women in the United States—their performance, their advance, and their overall contribution.

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Government publications can be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at prices listed, with a discount of 25 percent on orders of 100 copies or more. Publications for which no price is listed may be obtained from the designated agency.

