Employment Outlook in the SOCIAL SCIENCES

Fields of Employment
Educational Requirements
Employment Outlook
Earnings

UNITED STATES DEPARTMENT OF LABOR
James P. Mitchell, Secretary

BUREAU OF LABOR STATISTICS
Ewan Clague - Commissioner

in cooperation with Veterans Administration

Occupational Outlook Series

Bulletin No. 1167

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ECONOMICS
POLITICAL SCIENCE
HISTORY
SOCIOLOGY
STATISTICS
ANTHROPOLOGY

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LETTER OF TRANSMITTAL

United States Department of Labor,
Bureau of Labor Statistics,
Washington, D. C., April 23, 1954.

The Secretary of Labor:

I have the honor to transmit herewith a report on employment outlook in the social sciences. This is one of a series of reports made available through the Bureau's Occupational Outlook Service for use in the vocational counseling of young people in school, veterans, and others interested in selecting an occupation. The study was financed largely by the Veterans Administration, and the report was originally published as a Veterans Administration pamphlet for use in vocational rehabilitation and education activities.

This study was conducted in the Bureau's Division of Manpower and Employment Statistics. The report was prepared by Rose K. Wiener under the immediate supervision of Cora E. Taylor. The Bureau wishes to acknowledge the generous assistance and cooperation received in connection with the study from the officials of professional associations, colleges, and Government agencies, and many other social scientists.

Ewan Clague, Commissioner.

Hon. James P. Mitchell,
Secretary of Labor.

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Employment Outlook in the Social Sciences

INTRODUCTION

Every human being must learn to live as a member of society. Merely to be born is to become part of a family and a member of one of the races of man. To be born in a particular place is to become part of a group of people who make up a community, with its own customary ways of obtaining food and shelter, educating and protecting its children, and maintaining order. Each community--village, town, or city--is part of a nation, and all nations have been made near neighbors by modern means of communication and transportation. As men and nations are drawn closer together, it becomes ever more important for them to learn to live in harmony with each other.

The major aim of the social sciences is to throw light on the problems of living in society. Social scientists study the behavior of individuals in their relations with their fellow men and seek to discover patterns of group behavior and how these develop and change. They are concerned with the whole range of human history and human activities, from the origin of man to the latest developments in the cost of living.

So vast an undertaking requires a division of labor, and most social scientists are specialists in one of several major fields, each of which is concerned with the study of man from a different viewpoint. The fields generally classified as basic social sciences are anthropology, sociology, political science, history, economics, and statistics. However, anthropology overlaps the natural sciences, and history is often regarded as one of the humanities. Statistics is a borderline field because statistical techniques are applied not only in the social sciences but also in a variety of other subject matter fields. Social psychology and economic and human geography are usually included among the social sciences, but other branches of psychology and geography are grouped with the natural sciences. The

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fields of business administration and social work are applied social sciences .[1] Because the social science specialties overlap and are interdependent, it is important that members of each occupation have a broad understanding of the related social science fields.

Employment in the basic social sciences has more than tripled in the past 15 years and is expected to rise over the long run. However, in the major areas of employment--college teaching and Government--the demand for personnel is not expected to be great in the immediate future. The need for college teachers will expand markedly in the early 1960's, as the large numbers of children born during and after World War II enter college. The demand for social scientists in the Government will probably continue to fluctuate with domestic and international conditions. A slow but steady growth in employment opportunities, especially for economists, statisticians, and sociologists, is expected in private industry.

This report is designed to give young people interested in preparing for careers as social scientists an overall picture of the basic social science fields listed above and the employment opportunities they offer. After a brief discussion of the size and scope of the social science fields as a whole, separate chapters describe the nature of the work and the main specialties within each of these basic fields. Other chapters discuss the major fields of employment, education and training needed, usual methods of entry into professional work, and employment trends and outlook. The report concludes with a section on earnings.

Although the primary purpose of this report is to acquaint students with the social science professions as fields of employment, it should be made clear that education in the social sciences has a more basic value--that of helping individuals to meet their personal and social responsibilities in everyday living. Because technological advances have outstripped man's ability to cope with social problems, both domestic and international, there is an ever-increasing need for citizens with training which will enable them to contribute to the solution of such problems.

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[1] For information on psychologists, social workers and other occupations see, Occupational Outlook Handbook, Bulletin No. 998, U.S. Department of Labor, Bureau of Labor Statistics, 1951. Detailed information on geographers is available in Bureau of Labor Statistics Bulletin No. 1050, Employment Outlook for Earth Scientists, 1951.

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THE SOCIAL SCIENCE PROFESSIONS

The various social science professions are so closely related that no hard and fast lines can be drawn between them. However, each profession has certain recognized areas of application. The study of the origin and physical characteristics of the races of men and of the patterns of living of various cultural groups is the special province of anthropologists. Sociologists are concerned with the relationships and problems arising from the many kinds of groups which men form--families, clubs, communities, and racial, religious, and national groups. Political scientists deal with government--its structure and operations. Historians review the records of past events and make systematic studies to explain the past and throw light on what is happening today. Economists examine the ways in which men make a living and the factors which help or hinder them in satisfying their material needs. Statisticians are concerned with the collection, classification, analysis and evaluation of quantitative data. Statistics is a tool subject used not only in the social sciences but in all fields in which numerical data are used in the solution of problems. This brief review suggests how greatly the various social sciences overlap each other, covering much the same subject matter with different emphases and points of view.

An estimated 35,000 people were earning their living by working professionally in the basic social sciences in early 1954. In addition, many thousands were employed in other positions for which social science training is, in varying degrees, a prerequisite--including professional work in business and public administration, administrative and research positions in social welfare, and high school teaching. The Federal Government, for example, employs persons who qualify as social science analysts for such positions as personnel assistant, claims assistant (trainee), research analyst, budget examiner, and many others.[2] Teachers of history or economics or other social sciences in secondary schools often have advanced graduate training in their subject matter fields, but they are customarily classified as high school teachers rather than professional social scientists. Many important administrative and research positions with philanthropic and government welfare organizations are held by sociologists, but social workers take the field of social welfare and social service as their domain. These related fields are not covered by this report, which is limited to a discussion of persons in the basic social science fields.

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[2] See U.S. Civil Service Commission, Fourth Regional Office, Announcement No. 4-27 (1952), Junior Professional Assistant, Social Science Analyst.

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Teaching and research work are the chief activities of social scientists. Nearly half (15,000-16,000) teach in colleges and universities. Most of the remainder are engaged in research--primarily for Government agencies, but also for private business and for nonprofit research and civic groups.

Economists are the largest group of social scientists. Nearly half of all social scientists (roughly 16,000 in 1954) are economists or statisticians working primarily on economic statistics. Historians comprise the next largest group of specialists, numbering about 6,000. There are probably more than 3,000 political scientists and a somewhat smaller number of sociologists.[3] Anthropologists comprise the smallest group--fewer than 1,000.

About 6,000 professional social scientists are employed in positions requiring broad training in the content and methods of several fields or of the social sciences as a whole. Some people in this group are college faculty members who teach several of the social sciences; some are in intelligence or foreign affairs work, where specialists with an intensive knowledge of particular areas of the world are needed; others are in social administration or research, which may cut across the fields of economics, political science, sociology, and psychology.

Each of the basic social sciences includes a number of specialties, which largely determine the nature of the work performed and the types of employment opportunities available. The major occupational specialties in each of the basic social sciences are described in the sections which follow.

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[3] These estimates do not include personnel in the field of public administration other than those teaching at the college level.

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NATURE OF WORK AND FIELDS OF SPECIALIZATION

ANTHROPOLOGISTS

Nature of Work

Anthropology, the study of man and his works, is the most wide-ranging of the social sciences. Perhaps its outstanding contribution has been the development of the concept of culture. This is the idea that the total way of life of a tribe or group--its customs, traditions, material possessions, social and religious organization--plays a dominant role in the development of human beings.[4] Until the last decade anthropologists limited their study largely to prehistoric and primitive man and to racial and cultural groups outside the main stream of western civilization. However, they are, more and more, turning to the study of modern American and European cultures as well. Most anthropologists are engaged in college teaching but also do some research work.

Basic research in anthropology usually involves trips to the places where the culture which is being studied is located. If the anthropologist is interested in the way of life of a primitive people, he may live among them, often under difficult conditions. He must take accurate, detailed, and complete notes describing the people's physical characteristics, social customs, and material possessions, usually learning their language during the process. He also collects examples of their pottery, tools, weapons, and other articles. If he is concerned with an ancient civilization, he may make excavations to look for remains of the people and of their homes, clothing, utensils, and ornaments. The anthropologist usually analyzes his notes and materials in a laboratory or library after his return from a field trip; supplements his field work with library research, so that he can compare his own observations with published reports on the same subject; and writes reports presenting his findings and conclusions.

Some anthropologists are employed as curators or directors of museums or as museum consultants, identifying and classifying specimens and arranging cultural objects for exhibition. Advanced training and research is usually required for such work.

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[4] Kroeber, A. L., Anthropology, 1900-1950, Scientific American, September 1950, pp. 87-90.

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Some anthropologists are employed in Government agencies as linguists, studying and interpreting primitive languages. A few are employed as consultants in work relating to island territories (Pacific Islands and Alaska), to review proposed legislation in the light of tribal customs and traditions, settle inheritance claims according to tribal laws, organize elections, and help smooth out the problems which arise from differences between western and tribal cultures. Others serve as program officers in the administration of foreign aid programs, particularly in the Middle East and in Latin America, or administer international student exchange and fellowship grant programs. Anthropologists are also occasionally employed as consultants on such problems as personnel and industrial relations.

Fields of Specialization

There are two major branches of anthropology--physical anthropology and cultural or social anthropology.

Physical anthropology is the study of man as an organism--his origin, evolution, and life cycle--and of the physical characteristics and distribution of the races of man. Physical anthropology is based on human biology, anthropometry (the scientific measurement of the body and its parts), and biometrics (the use of statistical methods in analyzing biological data). It is primarily a natural science.

Cultural anthropology includes ethnology, archeology, primitive linguistics, and applied anthropology. The ethnologist studies primitive tribes and tries to learn their whole way of life--government; social and family organization; religious and magic practices; methods of procuring food, clothing, shelter; ways of making tools, utensils, weapons; rules for ownership of property; and art and recreation. Some ethnologists are especially interested in the way in which the personality and behavior of the individual are influenced by the customs of the group; in this respect their work is closely allied to psychology.

Archeologists search for evidences of the past by digging into the places reported by history or legend to be sites of former civilizations. Their researches have reconstructed the way of life of the people who once inhabited buried cities and extended our knowledge of the different racial and cultural groups who lived and died in the long history of man's social and intellectual development. Although anthropologists customarily include archeology among the specialized branches of their

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profession, archeology is sometimes considered a separate profession.

Primitive linguistics includes the study of the languages of primitive and nonliterate peoples--those who do not have a written language.[5] Specialists in the field also study phonetics (the spoken sounds), the grammar and the historical development of languages. By comparative studies they have been able to classify languages into groups of similar elements and to simplify greatly the problem of framing alphabets and grammars and the teaching of difficult languages to students. Their researches have been of great value in teaching such languages as Chinese, Russian, and Arabic to army personnel during and since World War II.[6]

Applied anthropology is concerned with the application of the knowledge and methods of anthropology to the solution of practical problems in various fields, including personnel and industrial relations, social work, problems of minority peoples, and native and colonial administration, and education.

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[5] Primitive linguistics is a branch of scientific linguistics. The broad field of scientific linguistics--the study of human speech in all its aspects--is generally classified with the humanities.

[6] Kroeber, A. L., op. cit.

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SOCIOLOGISTS

Nature of Work

Sociology is often called the "science of society," since members of this profession study the many kinds of organizations which men form--including social, religious, racial, national, professional, and business organizations, as well as families, communities, states, and nations. The sociologist traces the origin and growth of these social groups and analyzes their activities and the way they influence, and are in turn influenced by, the human beings who belong to them. Some sociologists are interested primarily in the way individuals are affected by the roles they play in society. Others are more concerned with the characteristics of social groups and institutions.

Although college teaching and research are the chief functions of most sociologists, some are engaged in consulting work, technical writing and editing, management, and administration.[7]

In their research, sociologists use case studies, surveys, and other methods. For example, they may make case studies of individuals or families, collect life histories of prisoners in penal institutions, or study the patterns of living in communities of different sizes and types. The kinds of statistical studies which they make include public opinion polls, studies of mass methods of communication and advertising--radio, television, newspapers, magazines, and circulars--and surveys designed to supplement the data obtained through case studies.

Sociologists engaged in consulting work give advice in such fields as penal affairs, marriage and family problems, public relations work, city planning, and other situations involving an understanding of social relations. They predict the probable outcome in the use of probation and parole procedures in the treatment of delinquents. They supervise marriage and family clinics which try to help people improve their family relationships and to reduce the number of divorces. They advise advertising agencies on the most effective methods of promoting public interest in particular products. They aid city planners in deciding on the parks, playgrounds, schools, community centers, and other facilities needed to promote healthful community relationships.

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[7] For a further discussion of the work of sociologists, see "The Roles of the Sociologist--An Analysis of the Membership of the Society with Special Reference to Non-Teaching Occupations," Bulletin of the American Sociological Society, September 1951.

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Among the types of organizations in which sociologists may perform management and administrative functions are settlement houses, boys' clubs, community centers, and religious groups.

Fields of Specialization

The subjects which are of most interest to sociologists are constantly changing. Partly for this reason, no fully satisfactory classification of the fields of specialization in sociology has been developed. However, the major branches of study are indicated by the following list, based on classifications developed by the National Roster of Scientific and Specialized Personnel.

Historical and theoretical sociology.--The sociologist in this field traces the origin and development of present-day customs and institutions, such as marriage and the family. He is concerned with the whole group of problems arising from men's relations with each other, with the history of social ideas, and with the formulation of scientific theories to explain the nature of society.

Social psychology.--This specialty draws upon the knowledge and methods of both sociology and psychology in order to analyze the mental processes and reactions of individuals acting in groups, the ways in which public opinion is formed, the influence of various types of propaganda on people's actions, and the way in which the behavior of crowds differs from that of single individuals.

Educational sociology.--Specialists in this branch are concerned with the structure of the educational system and the influence of education on the community and nation.

Rural sociology.--The rural sociologist studies the customs and institutions of rural communities. He is concerned with basic attitudes and behavior patterns in various types of rural communities; with religious, social, and economic relationships in rural areas, and with the improvement of rural living. He is particularly interested in the social effects of rural, as contrasted with urban and suburban living.

Urban sociology.--The urban sociologist surveys the different types of cities--their origin, growth, population, and the social and economic patterns of living. He is interested in all the problems which arise from city living--city planning, housing, recreation, highway facilities, health services, and civic reform. Such related problems as workman's compensation, labor relations, and unemployment are also within his province.

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Race and minorities.--Specialists in this field are concerned with the relations between the various racial, national, and religious groups (particularly Negroes and minority groups of foreign origin), the causes of conflict among them, and the ways in which prejudices may be overcome and more harmonious relations established.

Institutions.--Sociologists in this specialty study the organizations which have emerged as a result of the major social interests of groups--the state, the church, and the family, as well as those institutions centered about economic, recreation, and art interests. They emphasize the study of marriage and the family, and the way in which family life is influenced by the laws, moral codes, ideas, habits, and values of the community.

Population.--Sociologists in this field are concerned with the composition, distribution, and growth of population and with the causes and consequences of population change. They deal with statistics relating to births, deaths, marriage, divorce, and the geographic movement of population. They also study changes in population characteristics such as sex, age, and race. A relatively recent development in this field is human ecology, which deals with the effect of the physical environment on the occupations, health, and activities of individuals and groups.

Criminology.--This area of specialization deals with the causes and methods of preventing crime and juvenile delinquency. Criminologists also study penal institutions, types of punishment, and methods of rehabilitating criminals--especially pardon, parole, and probation procedures.

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POLITICAL SCIENTISTS

Nature of Work

Political science is the study of government--what it is, what it does, and how and why. Political scientists are interested in government at every level--local, county, State, regional, national and international. Although college teaching and administration are their major functions, small numbers are engaged primarily in research and consulting work.

Political scientists conduct research in Federal, State, or local government agencies--this may require a first-hand study of agency programs. They also may find research positions in private organizations such as civic and taxpayers' associations, and in groups concerned with international problems; generally, however, these positions are open also to persons trained in other social sciences. Political scientists may act as consultants to government offices, civic bodies, research agencies, political parties, and other organizations.

Many political scientists are engaged in administrative and management work in the fields of personnel, budget and administrative analysis with Federal, State and local governments and with business organizations. However, these positions may be held also by persons with backgrounds in such fields as business administration, accounting, law, or personnel work, as well as in the other social sciences. Since it is impossible to identify the political scientists employed in the applied public administration field, they are excluded from this report. However, college teachers and research workers who are specialists in public administration are included in the data on numbers employed in the basic social sciences.

Fields of Specialization

Political scientists usually specialize in one of 8 major branches of the field, each of which is briefly described below.[8]

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[8] Adapted from National Roster of Scientific and Specialized Personnel, Social Sciences, Pamphlet No. 7, United States Employment Service, U.S. Department of Labor, Washington, D.C., Undated.

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American Government and comparative government.--This includes the study of the origin and development of the American political system, the provisions and purposes of the American Constitution, the structure and functions of American Government at every level, the structure and methods of operation of foreign governments, and a comparison of the similarities and differences of various forms of government.

International law and relations.--Political scientists in this area are concerned with the complex of rules and methods which nations have developed for dealing with each other--international law, diplomacy and agreements, and international organizations, conferences, and congresses.

Political parties and public opinion.--Political scientists in this field study the nature and methods of political parties and pressure groups. They conduct public opinion surveys, analyze propaganda and study the various channels of public communication--including radio, television, newspapers, and magazines.

Constitutional and administrative law.--This specialty is concerned with the fundamental powers of governments and the rights of citizens, as established by written constitutions such as the American Constitution, or unwritten constitutions such as the British; with laws passed in accordance with constitutional powers; and with the administrative powers of Government agencies and commissions (e.g., the Interstate Commerce Commission), to which power to establish regulations and enforce laws has been delegated by legislative bodies.

Political theory and philosophy.--The political scientists who teach and write in this field deal with the historical development of the national state, the justification for and limits of governmental power, and the relation of the state to other social groups and to individuals. They also formulate laws which describe the underlying principles of politics and government operations.

Legislature and legislation.--This specialty deals with the structure and operations of law-making bodies and the analysis of laws proposed or enacted.

Government and economic enterprises.--This includes the study of government regulations and policies relating to public utilities, labor relations, agriculture, and general business activities, the effects of taxation on business and other economic activities, and the whole field of government planning and control.

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HISTORIANS

Historians study the records of the past and derive from them a systematic account and explanation of past events, which will help to explain present-day happenings.

Historians may specialize in the history of a particular region or country or in a particular period of time--ancient, medieval, or modern. Sometimes they specialize in the study of certain phases of history--the economic and social life of a particular country or period, or international, diplomatic, military, church, political or cultural history, or other specialized subjects.

Most historians are engaged in college teaching or administration, but many of these college faculty members also conduct historical research. Some historians work as archivists, who select, preserve, and make available documentary materials of historical value. Others are museum or library specialists employed by historical societies, museums and special libraries to edit historical materials, prepare historical exhibits, and do related work. Some historians do writing and editing for Government organizations or for publishing firms or other business organizations. The majority of historians in Government do research and writing in the field of military history for the Department of Defense. In rare instances historians are employed by very large business firms as archivists or to prepare company histories.

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ECONOMISTS

Nature of Work

Economists study the ways in which men make their living and obtain food, shelter, services, and recreation. They are interested in the methods by which goods and services are produced, distributed, and paid for. They describe and analyze the organization of industries; the labor supply; the commercial banking and credit structure and government finance; international trade; the national income and wealth and its production and distribution; and the use and conservation of natural resources. They also study the effects of shifts and growth in population; living standards; the conditions which help or hinder economic growth and development; the improvement of trade; and the raising of living standards.

Most economists are college teachers or full-time research workers. Almost all economic research involves the use of statistical procedures and the analysis of statistical data, and it is likely to require also intensive training in the particular branch of economics involved. Research economists usually summarize the results of their work in written reports.

Some economists hold administrative posts in connection with programs for the collection and analysis of economic data. Many supervise groups of other economists and statistical clerks.

A few economists are engaged in consulting work for business firms. They make forecasts of general economic conditions or of company prospects with respect to sales volume, operating costs, and earnings, or give advice concerning inventories, price policies, labor relations, financial policies, and other business problems.

Fields of Specialization

Economists usually specialize in one of six major fields.[9]

Economic theory.--Specialists in this field are concerned primarily with the analysis of various systems of economic organization (such as capitalism, state socialism, and feudalism) and the systems of thought underlying them. They also study economic history.

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[9] Based on National Roster of Scientific and Specialized Personnel, op. cit.

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Money, banking and finance.--This specialty deals with the nature and functions of money and financial institutions, the ways in which money is created by bank loans or other forms of credit, the relation of such purchasing power to the general level of economic activity, and methods of regulating bank lending. Fiscal economists concentrate on the problems of government finance, expenditures, taxation and the ways in which these government activities affect business. They work out methods of distributing the tax load among all elements of the population.

Industry economics.--The economist specializing in industry studies the various types of business organizations, the methods of producing and marketing goods and services, and the various factors which determine costs and prices. He is also concerned with the effect on employment and production of such factors as government regulations, spending and taxation, wage policies, and private investment in new plants and equipment. Economists in this specialty may become experts in one industry or several related ones.

Agricultural economics.--The agricultural economist is concerned with the factors which affect farm production, prices, and income--including farm management, crop estimating, agricultural credit, crop marketing methods, and commodity exchanges (exchanges which deal in farm products such as corn and wheat). Agricultural economists make detailed analysis of the factors of production (land, capital, and labor) and the allocation of resources among different farm products. They also study the relation between farm production and income and such factors as international trade and tariffs, the availability of transportation, money and banking policies, taxes, and the supply of labor.

Labor economics.--Labor economists study the various factors which affect the employment, earnings, and welfare of labor; the relations between management and labor; and the effect of labor policies on industry and the Nation. They are concerned also with such subjects as the supply and demand for labor, wages and hours, labor legislation, labor disputes, labor unions, collective bargaining, conciliation, arbitration, pension and insurance plans, and other welfare measures.

Socio-economics.--Economists specializing in this area study such broad developments as population growth and migration, the relative numbers of people in different occupations, the distribution of national income among different segments of the population, the conservation and use of natural resources (such as land, water power, and minerals), and regional planning.

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STATISTICIANS

Statisticians use scientific methods to collect, organize, analyze, and interpret numerical data. They are often classified as social scientists because the use of statistics has been so highly developed in the social sciences. However, as one expert observed, " ....statistics are applied today not merely to describe the behavior of man as a social and economic animal, but also to describe plant and animal life, the weather, and, indeed, the shape of the universe."[10]

Since statistics is a tool which is used by specialists in particular subject-matter fields, it is frequently impossible to distinguish between people who are primarily statisticians and those who are chiefly economists, sociologists, or other subject-matter specialists, but who have training in statistics.[11] Economists provide information on economic conditions in the form of statistics. Life insurance actuaries use statistical procedures to prepare life expectancy tables on which life insurance fees and payments to beneficiaries are based. Agricultural scientists use statistical methods to aid in developing new varieties of plants which will be disease resistant, will mature early, or will resist bad weather conditions. Market research workers forecast consumer acceptance of new products on the basis of statistical surveys. Factory managers use statistical quality control procedures to check and control the quality of items turned out on a mass production basis.

Most people who are primarily statisticians and who are working in social science fields are engaged in research. Smaller numbers are employed in college teaching and in administrative and consulting work.

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[10] Wickens, Aryness Joy, Statistics and the Public Interest, reprinted from the Journal of the American Statistical Association, March 1953, Vol. 48, pp. 1-14.

[11] In this report, the estimate of the number of statisticians and the discussion of fields of employment and employment outlook have been limited, insofar as possible, to teachers of statistics and statisticians working in the field of social science.

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The research statistician has two main functions to perform: (1) to devise methods of obtaining, classifying, and summarizing quantities of data so as to provide usable information; and (2) to analyze the data and determine its meaning. Since it is impossible to collect complete information with respect to most problems under investigation, the design of surveys based on scientifically selected samples is often the statistician's principal task.

In planning statistical inquiries or surveys, statisticians draw up questionnaires or report forms, prepare instructions, and select sources which will provide a representative sample of returns--that is, returns which statistical theory and practical knowledge indicate to be representative of all the data that would be obtained by a complete survey. They also prepare tabulation plans, to indicate the structure and content of the tables which will be used to summarize the data obtained.

In analyzing a study, the statistician presents the data in summary tables, charts or graphs, and discusses the significance of findings. Reports may be published for the information of the public, as in the case of statistical data prepared by Government agencies with respect to economic conditions, taxation, and other matters of public interest. Often, reports are used as the basis for action by administrators or executives--as in the case of market research reports indicating the most effective medium for advertising particular products, or tax reports indicating the yield from particular types of taxes.

Since the intelligent application of statistical techniques to the study of specific problems requires a sound knowledge of the field in which the study is being made, most statisticians must be well-trained in the particular subject-matter fields in which they use their statistical skills: for example, biology, public health, agriculture, economics, sociology, psychology, engineering, and market or other business problems. Applied statisticians usually remain in their own special field or in related fields of study, because, in their case, knowledge of the subject matter is usually as important as knowledge of statistical methods. Mathematical statisticians, on the other hand, can transfer with relative ease among the various fields of work.

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FIELDS OF EMPLOYMENT

Colleges and universities and Government agencies are the two major fields of professional social science employment. Small numbers of social scientists are professionally employed in private industry or by nonprofit research or welfare organizations. A few are self-employed.

Colleges and Universities

Teaching.--The largest field of professional employment for social scientists is in colleges and universities. Roughly 15,000 social scientists were employed full time in teaching, or a combination of teaching and educational administration, in such institutions in 1950; the number had probably not changed greatly by 1954. The approximate number of college teachers in each of the major professional specialties is shown below:

Professional specialty	Approximate number of college teachers[1]
Anthropology	400
Sociology	1,900
History	4,900
Political science	2,000
Economics	4,200
Statistics	800
Social sciences (n.e.c.)	1,100

[1] All figures rounded to nearest 100. Number of economics and statistics teachers taken from 1950 Census Reports. Numbers of teachers in other fields based on an unpublished study by the Bureau of Labor Statistics and the American Council of Learned Societies.

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In addition to the approximately 15,000 full-time teachers in the basic social sciences, there were substantial numbers, perhaps several thousands employed as part-time social science instructors. These part-time teachers include graduate students studying for their Ph.D. degrees and people with full-time jobs outside the social sciences (for example, in accounting or legal practice).

Since the social sciences are taught in practically all institutions of higher education, there is a wide geographical distribution of employment in the teaching field. However, the best opportunities for advancement and the highest salaries are usually found in universities which train many graduate students, particularly those which confer the largest numbers of doctorates. Teachers in institutions situated in or near large industrial centers frequently have an opportunity to combine consulting work with their teaching duties. The greatest demand for consultants--especially in industrial relations and other fields of economics, public opinion and communications research, and social welfare, work--is in such centers.

Research.--Social science research in colleges and universities has long been hampered by a serious lack of financial support. Since the end of World War II, there has been some increase in funds, due in part to larger grants by foundations and in part to funds obtained from business and Government contracts to perform specific research jobs. A number of Federal agencies, including the Departments of the Air Force, Army, Navy, State, and Agriculture, have sponsored research in the social sciences.[12]

The increased interest in social science research is reflected in the fact that nearly one-third of the organizations listed in the 1950 Directory of Social Science Research Organizations in Universities and Colleges had been organized during the preceding 5 years.[13] The increase had improved opportuni-

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[12] Hubbert, Erin and Rosenberg, Herbert H., Opportunities for Federally Sponsored Social Science Research, Syracuse University. The Maxwell Graduate School of Citizenship and Public Affairs, 1951.

[13] Social Science Research Council, A Directory of Social Science Research Organizations in Universities and Colleges, New York, N. Y., 1950, (p.3).

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Table 1.--Number of research workers in rural social science in land-grant colleges and agricultural experiment stations for specified years

Year	Number of workers [1]		
	Total	Agricultural economics	Rural sociology
1929-30	191	173	18
1939-40	270	239	31
1947-48	287	235	52

[1] Full-time equivalents.

Source: 1929-30 and 1939-40 from Schultz, Theodore W., Training and Recruiting Personnel in the Rural Social Studies, American Council on Education, Washington, D. C., 1941, p. 89. 1947-48 from Human Relations in Agriculture and Farm Life, Farm Foundation, Chicago, Illinois, 1950, p. 16.

ties for students interested in part-time social science research work. However, the number of full-time research positions in such organizations is very small--probably fewer than a thousand.

Some indication of the limited number of people working in college and university social science research centers and the slow growth in this type of employment may be obtained by examining the situation in rural social science research (table 1). The number of research workers in this field rose appreciably between 1930 and 1940 but registered little gain in the 8-year period that followed.

Opportunities for research in sociology (other than rural sociology) are believed to have increased more in recent years than opportunities in other social science fields. However, only 8 percent of the 1,526 members of the American Sociological Society who responded to a Society questionnaire in 1951 were employed as directors of research or as research associates in educational institutions.[14]

[14] Warner, Wellman J., The Roles of the Sociologist, Bulletin of the American Sociological Society, New York, N. Y., September 1951, (p. 6).

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Government Employment

Government agencies--Federal, State, local, and international--employ nearly as many professional social scientists as do colleges and universities--perhaps as many as 13,000 or 14,000. The great majority of these men and women work for the Federal Government.

Federal agencies.--The Federal Government employed about 9,400 social scientists in continental United States and about 2,000 in the territories and foreign countries in June 1951. Since that time, the number of social scientists in the Federal service has declined moderately.

Economists and statisticians constituted more than half (57 percent) of the Federal social scientists in 1951 (table 2).[15] An additional 8 percent were employed in such social science occupations as historian, archivist, museum worker, or anthropologist.

Approximately 35 percent of the Government's social scientists were employed in general social science occupations, including nearly 2,600 in international affairs work (foreign affairs, military and other intelligence research, and international relations specialists), more than 300 in social administration, and about 475 in social sciences not elsewhere classified. The Government workers holding positions in the latter category (table 2) include sociologists,[16] political scientists, and research workers in occupations which cut across several social science fields. Many other Government employees, particularly in administrative posts qualified for their jobs partly on the basis of their social science backgrounds, but their job titles do not reveal this background.

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[15] Table 2 includes all statisticians in the Federal Government. A small number of these statisticians deal with problems outside the social science field.

[16] For further information on the employment of sociologists in Government see, "Participation of Sociologists in Government Programs," Bulletin of the American Sociological Society, April 1951.

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Table 2.--Distribution of Federal employees in social science occupations by agency, June 30, 1951
(Continental United States)

Occupation	Total	Army	Navy	Air Force	Treasury	Agriculture	Commerce	Interior	Justice	State	Labor	Veterans Administration	Federal Security Agency	Economic Stabilization Administration	General Services Administration	All others
Total, all social science employees[1]	9,377	1,218	518	662	129	897	907	355	44	1,439	939	413	507	276	174	899
Social administration	321	--	--	--	--	--	--	--	--	--	33	--	283	--	--	5
Economics	3,261	50	10	22	100	531	505	245	35	196	735	7	4	270	5	546
General economics	208	11	2	--	--	6	2	66	--	--	45	5	--	5	4	62
Business economics	1,219	24	2	18	9	11	277	63	34	5	297	2	4	241	1	231
International trade and development economics	392	--	4	--	--	7	136	2	--	150	--	--	--	1	--	92
Fiscal and financial economics	217	--	--	--	91	--	3	--	1	34	--	--	--	1	--	87
Transportation economics	134	12	--	--	--	18	67	--	--	--	--	--	--	1	--	36
Labor economics	462	3	2	3	--	6	1	1	--	7	393	--	--	21	--	25
Agricultural economics	588	--	--	1	--	443	19	112	--	--	--	--	--	--	--	13
Forest economics	41	--	--	--	--	40	--	1	--	--	-	--	--	--	--	--
Foreign affairs	1,136	377	65	57	--	1	6	7	1	598	--	--	--	--	--	24
International relations	210	--	--	--	--	--	--	--	--	209	--	--	--	--	--	1
Intelligence research	336	3	--	3	--	--	--	--	--	330	--	--	--	--	--	--
Military intelligence research	894	426	228	237	--	--	--	--	--	--	--	--	--	--	--	3
History	294	104	10	100	2	3	--	41	---	20	--	--	--	1	3	10
General anthropology	6	--	--	3	--	--	--	--	--	--	--	--	--	--	--	3
Physical anthropology	29	2	--	16	---	--	--	5	--	--	--	3	1	--	--	2
Archeology	38	--	--	--	--	--	--	23	--	--	--	--	--	--	--	15
Ethnology	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5
Scientific linguistics	14	1	--	--	--	--	--	2	--	11	--	--	--	--	--	--
Museum	49	11	--	2	--	--	--	11	--	--	--	--	--	--	1	24
Archives	273	31	24	4	--	--	--	--	--	30	--	15	--	--	158	11
Statistics	2,038	213	180	214	27	338	378	15	5	15	158	100	163	5	7	220
Social science (n.e.c.)	473	--	1	4	--	24	18	6	3	30	13	288	56	--	--	30

[1] Sociologists and political scientists are not classified as such, but are included in many of the categories here listed.

Source: Bureau of Labor Statistics Bulletin No. 1117, Federal White-Collar Workers--Their Occupations and Salaries, June 1951.

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Social scientists are employed in nearly every Government agency. The Defense Department--Army, Navy, and Air Force--employs the largest number (nearly one-fourth of such employees in the Federal service in 1951) and the State Department has the second largest group (15 percent in 1951). The Departments of Labor, Commerce, and Agriculture are also large employers of such personnel.

Nearly two-thirds of all statisticians on Federal payrolls in 1951 were in the Departments of Defense, Commerce, and Agriculture, but every agency employs some statisticians. Economists are also widely employed. However, the great majority of labor economists are in the Department of Labor, nearly all forest economists are in the Department of Agriculture, and most agricultural economists are in the Departments of Agriculture and Interior.

The great majority of federally employed historians (about three-fourths in 1951) are in the Defense Department, with an appreciable number in the Interior and State Departments. Archivists, however, are employed principally by the General Services Administration, which has jurisdiction over the National Archives.[17] Anthropologists, archeologists, ethnologists, and museum and scientific linguistics specialists are employed mainly in the Interior, Defense, and State Departments.

Military intelligence research workers are employed in the Department of Defense. Other intelligence research personnel and international relations specialists are employed mainly in the State Department. Foreign affairs specialists, with few exceptions are in the Defense and State Departments. Social administration personnel are found mainly in the Department of Health, Education, and Welfare (known as the Federal Security Agency in 1951), and other social science analysts are employed in the Veterans Administration.

About three-fourths of the Federal social scientists in the continental United States are stationed in Washington, D. C. The remainder are in Government offices scattered throughout the country (table 3).

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[17] The National Archives stores, preserves, and makes available records of historical value from inactive files of other Federal agencies.

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Table 3.--Geographical concentration of social scientists employed by Federal Government, in Continental United States, June 30, 1951

Occupation	All employees	In Washington, D. C.	Outside Washington, D. C.
Total, all social science employees[1/]	9,377	7,155	2,222
Social administration	321	200	121
Economics			
General economics	208	96	112
Business economics	1,219	891	328
International trade and development economics	392	391	1
Fiscal and financial economics	217	210	7
Transportation economics	134	123	11
Labor economics	462	366	96
Agricultural economics	588	408	180
Forest economics	41	11	30
Foreign affairs	1,136	1,093	43
International relations	210	210	--
Intelligence research	336	331	5
Military intelligence research	894	803	91
History	294	137	157
General anthropology	6	3	3
Physical anthropology	29	6	23
Archeology	38	5	33
Ethnology	5	5	--
Scientific linguistics	14	14	--
Museum	49	31	18
Archives	273	219	54
Statistics	2,038	1,458	580
Social science (n.e.c.)	473	144	329

[1/]Sociologists and political scientists are not classified as such but are included in many of the categories here listed.

Source: Bureau of Labor Statistics, Bulletin No. 1117, Federal White-Collar Workers--Their Occupations and Salaries, June 1951.

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State, local, and international governments.--Only rough estimates can be made of the numbers of social scientists employed in government agencies of these kinds. State and local governments employ perhaps 1,500 to 2,000 social scientists, of whom more than one-third are statisticians, working mainly in the fields of labor statistics and social insurance. A survey in 1944 reported more than 600 statisticians employed in State agencies and the number is known to have increased since that time.[18] Some indication of the number of social scientists in other professional specialties who were employed by State and local government organizations is furnished by a 1952 survey of social scientists.[19] The persons responding to the survey represented nearly half the total number of social scientists and included more than 500 political scientists, economists, historians, anthropologists. and sociologists who were professionally employed by State and local governments.

International government agencies--primarily the United Nations--employed several hundred citizens of the United States in social science occupations early in 1954, according to a rough estimate. However, opportunities for Americans in these agencies are restricted by the quotas set on employment of people of each nationality.

Private Employment

The total number of social scientists professionally employed in private business and other nongovernmental organizations probably did not exceed 6,000 in early 1954. According to rough estimates based on the 1952 Survey of Social Scientists, about 60 percent of the social scientists in private employment were working for private firms or were self-employed. The remainder worked for a wide variety of nonprofit groups--research

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[18] Schneider, David M., Opportunities for Statistical Work in State and Local Governments, Journal of the American Statistical Association, March 1945, p. 62.

[19] Based on a survey of approximately 56,000 social scientists and humanists, made by the American Council of Learned Societies in cooperation with the professional associations and financed by the Department of Defense. The survey returns, which included 26,000 usable schedules, were processed by the Bureau of Labor Statistics. The Bureau is presently engaged in the analysis of the survey, and references in this report to 1952 Survey of Social Scientists, allude to data from the aforementioned survey. Complete information on the survey will be included in a forthcoming report on Personnel Resources in the Social Sciences and Humanities.

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bureaus, philanthropic foundations, welfare organizations, and other civic organizations. Only the economists and statisticians were found in substantial numbers in private industry or self-employment; they constituted 85 percent of the social scientists working in these areas. Sociologists and political scientists each accounted for about 6 percent of the total employed in private industry; historians and anthropologists made up the remaining 3 percent.

Many economists and statisticians in private industry are employed by the economic research departments of large corporations, especially chemicals, petroleum, and food companies.[20] Members of these professions are also employed in private research bureaus which offer their services on a fee basis. Not only economists and statisticians but also social scientists in other professional specialties are engaged in market research and analysis and sales forecasting for a wide variety of business organizations, including manufacturers, wholesalers, department stores, and advertising agencies. However, market research work is frequently limited in range, and social science training is not a prerequisite for most market research positions.[21]

Few nonprofit organizations are engaged in economic research, but some of them are well established and employ as many as 20 or 30 economists and statisticians on a full-time basis. Many nonprofit organizations engage in research in political science, but most of them have very small full-time research staffs. Approximately 5 percent of the people included in the 1952 Survey of Social Scientists[22] reported that they were employed by nonprofit institutions, mainly research organizations.

Several hundred professional personnel are also employed in the research departments of trade unions. Although training in economics is usually required for such positions, the work cuts across all the social sciences. Statisticians are usually

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[20] The National Industrial Conference Board, Inc., Economic Research in Industry, The Conference Board Business Record, September 1950, New York, p. 366.

[21] Longman, Donald R., Status of Marketing Research, Journal of Marketing, October 1951.

[22] See footnote 19.

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required to have training in social science subjects, most often economics, to be accepted for such research work.

Related Fields of Employment

Many thousands of people with social science training are employed in positions closely related to the basic social science professions. Entrance requirements for some of these positions include educational courses in one or more of the social sciences. In other related positions, social science training is one of several types of education which meet the requirements for entrance.

High school teaching is the most important source of employment for social scientists outside the basic social science professions. It is estimated that, in 1953, about 55,000 high school teachers (approximately 16 percent of the total number) were chiefly engaged in teaching social studies--most often history. A survey of high school enrollments showed that about three-fourths of the students enrolled in social studies courses were studying history and civics (or government), only 6 percent were studying economics or sociology, and the remainder were taking courses in geography, psychology, consumer education, occupations, and related subjects.[23]

Economists and statisticians can often compete on equal or better-than-equal terms with business administration graduates for administrative and business research positions. Those with training in corporation finance and accounting can find jobs with banks, investment and brokerage firms, analyzing corporation reports or studying the stock and bond markets. Those who have studied agricultural economics and have some farm background hold jobs as technical specialists with large distributors of agricultural products, including farm cooperatives, and with the United States Department of Agriculture. Statisticians also may be employed in department stores to set up and use statistical methods of inventory control, in factories to devise methods of controlling the quality of goods manufactured, and in other businesses to do administrative work. Probably three or four times as many statisticians are employed in business administration,

[23] Based on Federal Security Agency, Office of Education, Circular No. 294, National Summary of Offerings and Enrollments in High School Subjects, 1948-49, Washington, D. C., May 1951.

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the natural sciences, public health and medicine, education, and other fields as in social science research and teaching.[24]

Sociologists frequently obtain positions as case workers, counselors, or recreation workers with public and private welfare organizations. However, the best positions in social work are reserved for persons with specific social work training.

Social scientists with training in personnel administration and industrial relations may also be able to obtain personnel or industrial relations positions with large business firms and with Government agencies.

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[24] For information on opportunities for statisticians outside the social science field see Jones, Howard L., and Roberts, Harry V., Statistics as a Career, The American Statistician, October 1952, (pp. 6-10).

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TRAINING AND EDUCATION

The minimum requirement for professional work in the social sciences is usually a bachelor's degree with a major in the field of specialization most closely related to the work to be performed. Undergraduate training is sufficient for appointment to many beginning positions in the Federal Government. However, people with master's or doctor's degrees or previous work experience may enter the Government service at higher levels. Outstanding graduate students are frequently hired as part-time teaching assistants in colleges and universities. Advanced graduate training, including completion of all preliminary requirements for the Ph. D. degree except the dissertation, is a common prerequisite for instructors. The Ph. D. is indispensable for advancement to the rank of professor in a high-ranking college or university.[25]

Undergraduate Training

Undergraduate training in the social sciences is usually considered to have, as its primary objective, preparation for citizenship, i. e., the meeting of one's personal and social responsibilities. While it is true that undergraduate education in the social sciences is an excellent background for a variety of jobs, the work performed on these jobs often has little or no direct relationship to the education.

The number and variety of social science courses available to the undergraduate vary widely among colleges. Students working for the bachelor's degree in a given field of specialization may, therefore, receive more intensive training in some educational institutions than in others.

Undergraduate courses in political science, economics, sociology, and history are given in practically every institution of higher education in the Nation.[26] Each year, hundreds of

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[25] Stigler, George J., Employment and Compensation in Education, National Bureau of Economic Research, Inc., New York, N. Y., 1950, (p. 36).

[26] Data on political science are from Goals for Political Science, op. cit., and on sociologists from Odum, H. W., American Sociology, Longmans, Green and Company, New York, 1951. History and economics were inferred from Office of Education data on the numbers of institutions conferring degrees.

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institutions award bachelor's degrees to students majoring in these fields.[27] A steadily increasing number of schools offer courses in anthropology. In 1950, more than 300 colleges and universities offered at least one course in anthropology, and about 50 institutions offered an undergraduate major in this field.[28] No complete data are available on the number of schools which offer courses or an undergraduate major in statistics; however, undergraduates interested in social science work usually major in some specific subject field and also take statistics and mathematics as essential tool courses.

Economics.--Undergraduate training in economics is usually begun in the sophomore year. A 1-year course providing an introduction to economic theory and a description of some important segments of our economic system is generally the only economics course specifically required. The number of semester hours required for a major may be as low as 18 or as high as 30 in economics alone, with a total of 30 to 45 semester hours being required in economics plus related fields. The related subjects may include the other social sciences, English, or even the natural or physical sciences. The courses in economics most frequently offered include money and banking, public finance, labor problems, economic history, statistics, international economics, corporations, economic theory, accounting, history of economic theory, comparative economics, and business cycles.[29]

Political science.--In most colleges a course in American Government is a prerequisite to almost every other course offered by the political science department. Students majoring in political science are usually required to complete 27 semester hours of work in the field. However, the minimum requirements in different institutions range from 6 to 48 semester hours. Courses in other social sciences, most often history and economics, are frequently required also.

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[27] U. S. Office of Education, Federal Security Agency, Earned Degrees Conferred by Higher Educational Institutions (issued annually).

[28] Voegelin, E. W., Anthropology in American Universities, American Anthropologist, January-March 1950.

[29] The Undergraduate Economics Curriculum and Related Areas of Study, American Economic Review, December 1950, Part 2, Supplement.

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In a number of institutions students may major in public administration at the undergraduate level.[30] Students majoring in this field are generally expected to take courses dealing with administrative problems such as personnel management, accounting, budgeting, and public relations. Some universities offer a formal internship program for undergraduates. Such internships may require that the student work for a stated number of hours each week in a local government agency or spend a summer working in a Federal Government department or with a legislative official.[31]

Students may also major in international relations at the undergraduate level. Curricula are usually set up to meet Foreign Service requirements and include courses in international politics, international law and organization, international economics, American and European diplomatic history, foreign languages, and international aspects of other social sciences.[32]

Sociology.--A major in sociology generally requires at least 24 semester hours of work in this subject. The courses most frequently specified, in addition to an introductory course, include statistics, social psychology, and courses concerning the family. Some schools require students to take courses in methods of social research, sociological theory, criminology, social disorganization, or social relations. Courses in social work may be accepted as electives.

Anthropology.--Students majoring in anthropology specialize either in physical anthropology or in cultural and social (or applied) anthropology. Those in the former specialty may be required to take a B.S. rather than a B.A. degree.

Some training in physical anthropology is considered necessary for all anthropologists, as is also training in archeology. Students specializing in social anthropology, however, take courses mainly in such subjects as contemporary cultures, the relation between culture and personality, ethnology, and linguistics.[33]

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[30] Martin, Roscoe, C., Political Science and Public Administration, American Political Science Review, September 1952, (p. 664).

[31] Goals for Political Science, op. cit., (pp. 83-85, 279-81).

[32] Goals for Political Science, op. cit., (pp. 53-56).

[33] The American Anthropologist, July-September 1952, Symposium--The Training of the Professional Anthropologist, (pp. 340-344).

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Courses in physical anthropology and linguistics are widely available in schools which offer anthropology training. Frequently available are courses in culture and personality and in archeology. A more limited number of schools offer courses dealing with specific areas or racial groups--for example, Oceania, Southeast Asia, Near and Middle East, and Africa.[34]

History.--At least 24 semester hours in history are usually required for a major in this field. Practically all colleges offer courses in the history of the United States; these courses comprise about one-third of the total semester hours offered. Students majoring in history are commonly required to take at least one course in United States history and one course in European or world history. These are likely to be followed by two or more advanced courses. American colonial history, the history of the American West, recent American history, English history, ancient history, medieval history, modern European history, Latin American history, and Far Eastern history are among other courses commonly offered by history departments.

Statistics.--Students preparing for professional work in statistics often take degrees in the fields in which they intend to apply their statistical training--most commonly economics. However, it is advisable for students to take as many undergraduate courses in mathematics and statistical theory as possible. Courses considered essential include: elementary statistical methods or statistical methods courses applied to particular fields of study such as economics and sociology, and college algebra, plane trigonometry, analytical geometry, and differential and integral calculus.[35]

Graduate Training

A minimum of 1 year of study is needed to obtain a master's degree in the social sciences, and a number of leading institutions offer a 2-year program in one or more fields of specialization.

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[34] Voegelin, E. W., op. cit.

[35] Required Training for the Statistician, (mimeographed release), American Statistical Association, Undated.

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Graduate training in the basic social sciences is much less widely available than undergraduate training. In the academic year 1952-53, only 58 institutions awarded the Ph.D. degree in history. Approximately 40 schools awarded the doctorate in economics,[36] political science, and sociology, and fewer than 15 institutions awarded the doctorate in anthropology. It is noteworthy that nearly one-third of the doctoral degrees conferred in the basic social sciences in the 6-year period, 1948-53, were awarded by three universities--Chicago, Columbia, and Harvard. During this same 6-year period, the 10 institutions granting the largest numbers of degrees in each of the social science fields (not the same 10 institutions in all fields) awarded more than half of all the social science degrees (table 4).

At least 3 years of graduate study are necessary to complete the requirements for the Ph.D. degree. A study of persons holding Ph.D.'s in the social sciences indicates that they spent an average of 3 to 3 1/2 years in full-time study and an additional 5 years in other activities (mostly earning a living) before completing the dissertation and other requirements for the Ph.D. The same survey indicates that persons who obtain the doctoral degree long after college graduation are less likely to be conspicuously successful than those who do so more quickly.[37]

Candidates for the doctoral degree are expected to obtain broad training in the major branches of their field of specialization and to prepare a doctoral dissertation which shows their competence in research work and represents an original contribution to the science. The subject of the dissertation is chosen from the branch of their subject in which they wish to specialize. Specific course work varies, at the graduate as at the undergraduate level, with the offerings of the different institutions. The major branches of study in each of the basic social sciences are indicated by the lists of specialized fields in the earlier sections of this report.

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[36] A list of institutions awarding graduate degrees in economics, as well as detailed information on other aspects of education in economics is presented in the following report: "Graduate Education in Economics," by Howard R. Bowen, American Economic Review, Vol. XLIII, No. 4, Part 2, Supplement, September 1953.

[37] Sibley, Elbridge, The Recruitment, Selection and Training of Social Scientists, Social Science Research Council, New York, N. Y., Bulletin 58, 1948.

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Table 4.--Ph.D. degrees awarded by the 10 institutions conferring the largest number of degrees in the social sciences, 1948-53

Subject field	Number of Ph.D. degrees awarded by --		Proportion of degrees awarded by 10 institutions
	All institutions	10 institutions	
Anthropology	190	174	91.6
Economics	1,162	715	61.5
History	1,592	875	55.0
Political science	934	538	57.6
Sociology	674	434	64.4

Source: See Appendix List of Universities and Table A.

A number of universities are experimenting with "general social science" degree programs, set up to provide training in several related social sciences. The most widely available programs are in the field of international relations.

Many universities now offer special programs designed to train area specialists--persons with a thorough knowledge of particular areas of the world. Such programs include a comprehensive group of courses in the language, social customs, economic arrangements, geography, history, and government of the area. In 1951, eight programs were offered with regard to the Far East. There were 6 programs concerned with Latin America, 5 were concerned with Russia, and 4 with Europe. One or two programs were offered on South Asia, Southeast Asia, the Near East, and Africa. Some institutions give a certificate or a master's degree in area study, but a doctorate in area study is rarely awarded. Area specialists usually take the Ph.D. in one of the basic social sciences. Since the area study program is additional to the courses regularly required for doctorates in these fields, it takes longer to become an area specialist than to complete training for other social science professions.[38]

[38] Bennett, Wendell C., Area Studies in American Universities, Social Science Research Council, New York, June 1951, (pp. 4-10 and 28).

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HOW TO ENTER

Teaching

Professors and chairmen of social science departments are the principal agents in the placement of their outstanding students in college teaching positions. Many positions as college teaching assistants and instructors are filled by outstanding present or former graduate students of the particular institutions, and most higher level positions are filled through promotion. Thus, careful choice of a graduate school, and even an undergraduate school, is important for persons who plan a career in college teaching.[39]

Students seeking college teaching or other professional positions may also find it helpful to join the professional society in their field of specialization. (See last section of this report, Where to Get Further Information.) Recruiting for such positions frequently takes place at the societies' annual meetings. In addition, a number of societies are giving increasing attention to the problem of aiding their members to obtain professional employment. The American Sociological Society, for example, publishes an Employment Bulletin devoted entirely to listing employment opportunities, applicants for professional positions, and information about graduate scholarships and fellowships. The American Statistical Association publishes a bi-monthly news bulletin for its members, The American Statistician, which occasionally lists job opportunities and scholarships and fellowship information. This bulletin also contains articles describing statistical work in various fields of employment. The American Economic Review regularly lists job opportunities and job applicants in the field of economics. The American Anthropological Association issues a News Bulletin for its memberhip, which includes lists of job opportunities. Most positions listed by the publications of the professional associations are in colleges and universities, but information is also given concerning openings in Government and in private organizations.

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[39] Stigler, George J., Employment and Compensation in Education, National Bureau of Economic Research, Inc., New York, N. Y., 1950, (pp. 35-39).

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Government

The usual method of entering professional social science work in the Federal Government is to qualify as a junior management assistant or junior professional assistant by taking the appropriate Civil Service examination. To be eligible to take these examinations, applicants must have completed a 4-year college course leading to a bachelor's degree with a major in one or a combination of social sciences or related subjects (the specific course requirements varying with the occupational field). An equivalent combination of education and certain specified types of experience, is also acceptable. The junior professional assistant examination is primarily a test of general abilities. The junior management examination, which includes oral as well as written tests, is much more difficult--of the 5,000 persons who were examined in early 1954, only 4 percent passed both the written and oral tests and were thus eligible for appointment.[40] Since this examination eliminates all candidates except those judged to be qualified for careers leading to high-level positions, many agencies prefer to recruit their junior social science personnel from the junior management register.

For positions of higher grade additional requirements with respect to training and experience are stipulated. Positions one grade above the junior level are frequently filled by applicants with master's degrees. Most positions above the two lowest professional grades are filled by promotion from within.[41]

Although social science positions in the State Department can be offered through the Civil Service examinations for junior professional assistant or junior management assistant, perhaps the most promising way to begin a career in this department is through the Foreign Service officer examinations conducted annually by the State Department. No specific collegiate background is required for these examinations but broad training in the social sciences has been found to be the most helpful type of educational background.[42]

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[40] Unpublished data from the U.S. Civil Service Commission.

[41] For further information on social science positions in the Federal Government write to the U.S. Civil Service Commission, Washington 25, D. C.

[42] The Department of State, The U.S. Foreign Service, Foreign Service Bulletin No. 28, U.S. Government Printing Office, Washington 25, D. C., April 1952.

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Requirements for professional social science positions in the State and city governments vary widely. Information about such positions should be obtained directly from State and local civil service commissions.

Private Employment

Students seeking employment with private research organizations are likely to find their professors and departmental chairmen the most helpful sources of information. College professors are usually well informed as to the organizations in the vicinity which use personnel in each social science field and may have personal contacts with the staff of such organizations. College placement bureaus may be helpful but are usually less effective than the professors in placing students in professional positions in private industry. Positions can sometimes be obtained through answering advertisements in professional journals or less often those in large metropolitan daily newspapers and financial journals.

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EMPLOYMENT TRENDS AND OUTLOOK

Past Employment Trends

Employment in the social sciences has increased greatly during the past few decades--from fewer than 10,000 in 1931 to approximately 35,000 in 1954. Colleges and universities were, in 1931, the one large field of employment for professional social scientists. In that year, the Federal Government employed only about 600 economists and statisticians and a few historians and anthropologists;[43] private industry provided positions for a much smaller number of economists and statisticians;[44] and nonprofit organizations outside of education employed a few social scientists, mainly sociologists. By 1954, the proportion of social scientists in institutions of higher learning had dropped to less than half the total employed; about a third were in Government work, and more than one-tenth were in private industry and in nonprofit organizations.

The number of social scientists employed as college teachers probably more than doubled between 1931 and 1954. Exact statistics are not available on the increase in college faculties in the social sciences, but college enrollments more than doubled during this period, and so did the total number of college teachers. And the available information indicates that the proportion of all students, and presumably of all teachers, who were in the social sciences remained about the same.

The rate of increase in the number of college teachers was slow but fairly steady from 1931-32 to 1941-42. Then, as students entered the Armed Forces, college faculties decreased. They expanded sharply in 1945-46 when the veterans began to enter colleges. In 1949-50, the year of peak enrollments, the number of college teachers was approximately 80 percent larger than in 1943-44.[45] College enrollments declined between 1950

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[43] Sims, Lewis B., Social Scientists in the Federal Service, Yearbook of the Graduate School of Public Administration, Harvard University, 1940 (p. 286).

[44] The National Industrial Conference Board, Economic Research in Industry, The Conference Board Business Record, Vol. VII, No. 9, September 1950, New York (p. 366).

[45] Federal Security Agency, Office of Education, Statistics of Higher Education, Faculty, Students and Degrees, 1949-50, U. S. Government Printing Office, Washington 25, D. C., 1952.

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and 1952, but they were again on the uptrend by the 1952-53 school year. The total number of full-time college teachers is believed to have declined only slightly following 1950, and the number of social science teachers in 1954 was probably not far below the 1950 estimate of 15,000 or 16,000.[46]

The most rapid expansion in employment of social scientists has taken place in the Federal Government which, early in 1953, employed a total of about 11,000 social scientists in the United States and abroad. This increase has resulted from a long-term growth in both domestic and international responsibilities of the Federal Government. The greatest increase in employment began in 1933, with the enactment of new regulatory and social legislation, including the regulation of the sale of securities, and the establishment of bank deposit insurance, social security benefits, farm commodity controls and price supports. and minimum wage and maximum hour standards. The problems of wage, price, and materials control during World War II and again during the partial mobilization period which followed the outbreak of hostilities in Korea brought further temporary increases in the need for personnel with social science training. Statistics on Government social scientists in all fields of specialization are not available for early years, but the great rise in employment of economists and statisticians in Washington, D. C., since 1931 is shown in table 5.

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[46] The employment of college teachers fluctuates roughly in accordance with variations in enrollment over long periods of time, but short-run employment changes tend to lag behind enrollment changes. The number of full-time faculty members in 68 land-grant institutions (employing over one-fifth of all college teachers) dropped only 6 percent between the peak enrollment period 1949-50 and 1951-52, when enrollments had declined sharply. See Federal Security Agency, Office of Education Circular No. 283, Faculty Salaries in Land-Grant Colleges and Universities, 1949-50 and Circular No. 358, Faculty Salaries in Land-Grant Colleges and State Universities, 1951-52, U. S. Government Printing Office, Washington 25, D. C., published in 1951 and 1952, respectively.

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Table 5.--Number of economists and statisticians employed in Federal Civil Service positions in Washington, D. C. in selected years

Year	Total	Economists	Statisticians
1931	616	537	79
1937	2,067	1,675	392
1939	2,419	1,946	473
1951	3,954	2,496	1,458

Source: See table 3, p. 24 for 1951 data. Data for other years from Sims, Lewis B., Social Scientists in the Federal Service, Yearbook of the Graduate School of Public Administration, Harvard University, 1940, p. 286.

The Federal Government has also greatly increased its employment in professional occupations which cut across all or several of the social science fields. The State Department in 1938, employed approximately 500 clerical and professional personnel in work relating to social science problems. In 1951, it had over 1,100 professional employees (excluding economists) in international relations, foreign affairs, and intelligence work. In addition, Foreign Service officers more than doubled in number (from 715 to 1,500) between 1938 and 1951.[47]

[47] 1938 data from Task Force Report on Foreign Affairs, Appendix H; Prepared for the Commission on Organization of the Executive Branch of the Government, January 1949, (pp. 76 and 108); 1951 data from Sayre, Wallace S., and Thurber, Clarence F., Training for Specialized Mission Personnel, Public Administration Service, Chicago, Illinois, 1952, (p. 55).

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The number of historians, anthropologists, and sociologists employed in the Government rose from a handful in the 1930's to more than 700 in 1951. This increase, however, affected only a small proportion of the social scientists in these fields of specialization.

Some increase has occurred in the employment of social scientists in State and local governments, especially since the late 1930's. Statisticians and economists have been in demand to aid in the administration of social insurance systems established during the past 20 years. The establishment of the United Nations in 1945 led to some growth in employment in international organizations, but opportunities have remained limited.

In private industry a great increase in employment of social scientists appears to have taken place during and since World War II. A survey of the economic research departments of the largest corporations in the United States reported that only 13 of 42 such departments (for which information on the date of establishment was available) were set up prior to 1930; seven were organized during the 1930's, and 22 during the 1940's.[48] Growth in employment in nonprofit organizations has been slow, and has resulted mainly from the setting up of new organizations.

A further indication of the growth of the basic social science fields is the rapid increase in membership in the various professional societies and the establishment of new societies (chart 1). Society membership, however, provides only a rough guide to the growth of the various fields, since many persons belong to more than one society and few societies restrict membership to professionally trained or professionally employed social scientists. Furthermore, many social scientists do not join any of the professional organizations.

Supply of Social Scientists

Students who take graduate degrees in the social sciences are the core of the supply of professional personnel in these fields. During the 6-year period ending June 1953 about 26,000 master's degrees and 4,700 doctorates were awarded. Comparable data on numbers of graduates prior to this period are not available. However, the National Roster of Scientific and Specialized Personnel, which was not complete, listed some 5,200 Ph.D.'s and 5,500 masters in social science fields as of December 31, 1945. In addition, some of the best trained of the great number of students who take bachelor's degrees in the social sciences (240,000 in 1948-53) engaged in professional work in these fields and must be included in the supply of trained

[48] The National Industrial Conference Board, op, cit.

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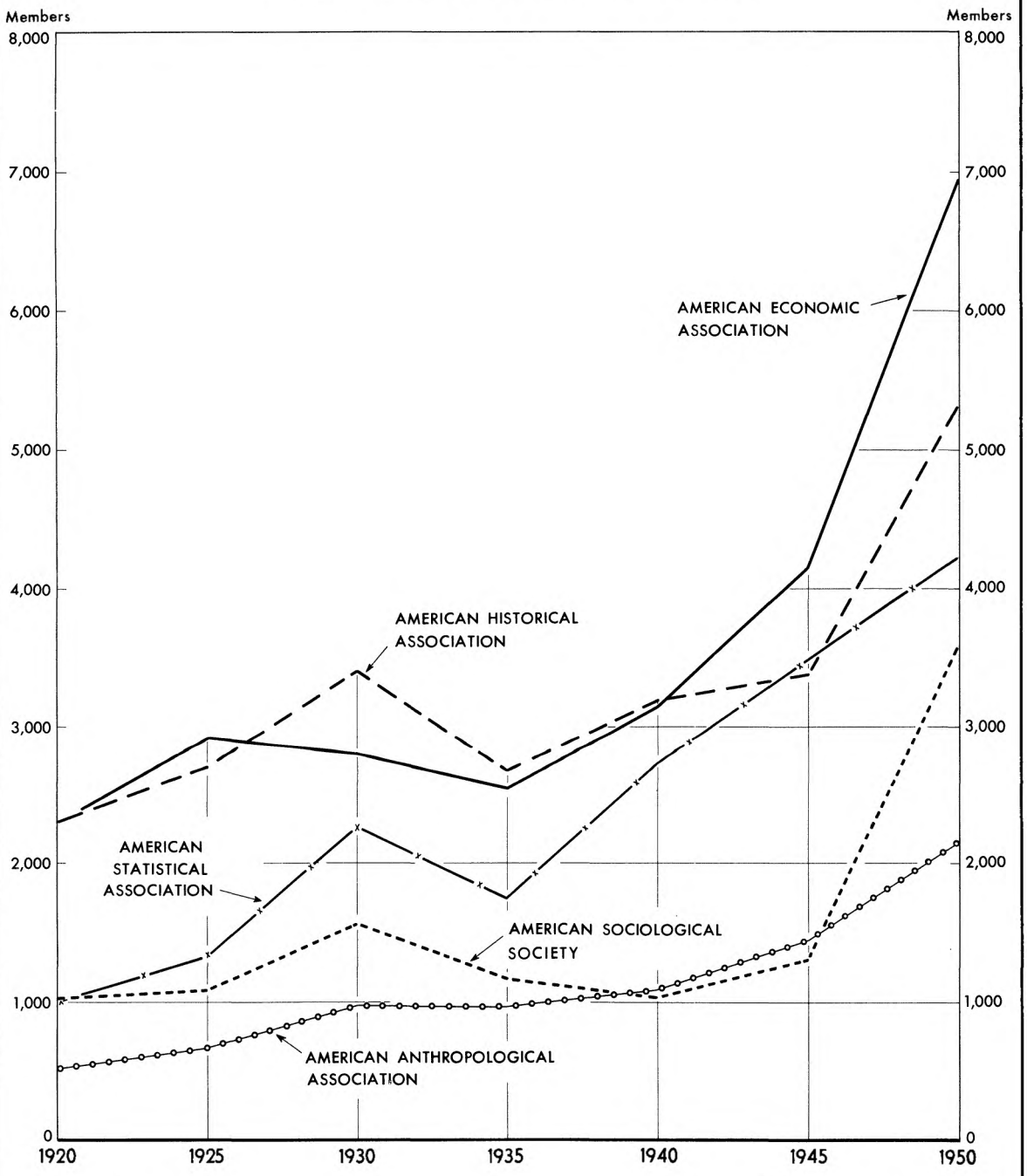
Chart 1. Growth in Membership of Largest Professional Associations in 5 Social Science Fields[1/]



UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

[1/] Excludes institutional membership
Source: Data provided by the Associations

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social scientists,[49] as must the smaller numbers of persons with education in related fields who qualify as social scientists through extensive experience. On the other hand, by no means all persons with graduate training in the social sciences are employed in these fields; this is evident from a comparison of the estimated number (35,000) of persons currently employed in the social sciences with the above information on the supply of potential social scientists.

As the chart indicates, far more graduate degrees are awarded in history than in any other social science. Approximately one-third of all social science doctorates conferred during the 6-year period, 1948-53, were in history; about one-fourth were in economics, one-fifth in political science, and one-fifth in all other social science fields taken together. Of the master's degrees conferred in the social sciences during the same period, more than one-third were in history. The number of master's degrees granted in political science was also relatively high (23 percent) probably owing to the tendency of schools of public administration and international relations to concentrate on the training of masters in these fields.

Because social scientists with advanced training, especially those with doctorates, are such an important part of the social science labor force, it is interesting to compare the trends in the numbers of doctoral degrees granted in the social sciences with doctoral degrees granted in all subject fields. The proportion of all doctoral degrees conferred on social scientists decreased slightly in the first half of the 1930's and then remained constant until World War II--when it dropped somewhat owing largely to the wartime emphasis on natural sciences and engineering (table 6). Data on the master's degrees granted in the social sciences are not available prior to 1948, but the general trend has probably been similar to that in doctorates.

With the end of World War II and the sharp increase in enrollment of veterans in colleges, the supply of social scientists with graduate degrees began to increase rapidly. The number of master's degrees awarded reached a peak of nearly 5,000 in the year ending June 1950; the largest number of doctorates was conferred in the following year (chart 2 and appendix table A).

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[49] The 1952 Survey of Social Scientists (footnote 19) indicated that approximately one-sixth of those currently employed in one of the basic social sciences had only a bachelor's degree or even less formal education.

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Table 6.--Doctoral dissertations accepted in all subject fields and in social sciences, 1926-50

5-year period	All fields	Social sciences[1]	Percent in social sciences
Total	67,016	10,180	15.2
1926-30	8,410	1,438	17.1
1931-35	12,282	1,852	15.1
1936-40	14,176	2,135	15.1
1941-45	13,151	1,869	14.2
1946-50	18,997	2,886	15.2

[1] Includes anthropology, economics, history, international law and relations, political science and sociology. Dissertations of statisticians are usually classified in the subject fields in which their statistical training is applied--most often in economics.

Source: Compiled from: Marsh, Clarence Stephen, American Universities and Colleges, American Council on Education, Washington, D. C., 1936: Henry, Edward A., Doctoral Dissertations Accepted by American Universities, 1940-41, and Trotier, Arnold H., and Harmon, Marion, Doctoral Dissertations Accepted by American Universities, 1949-50, The H. W. Wilson Company, New York.

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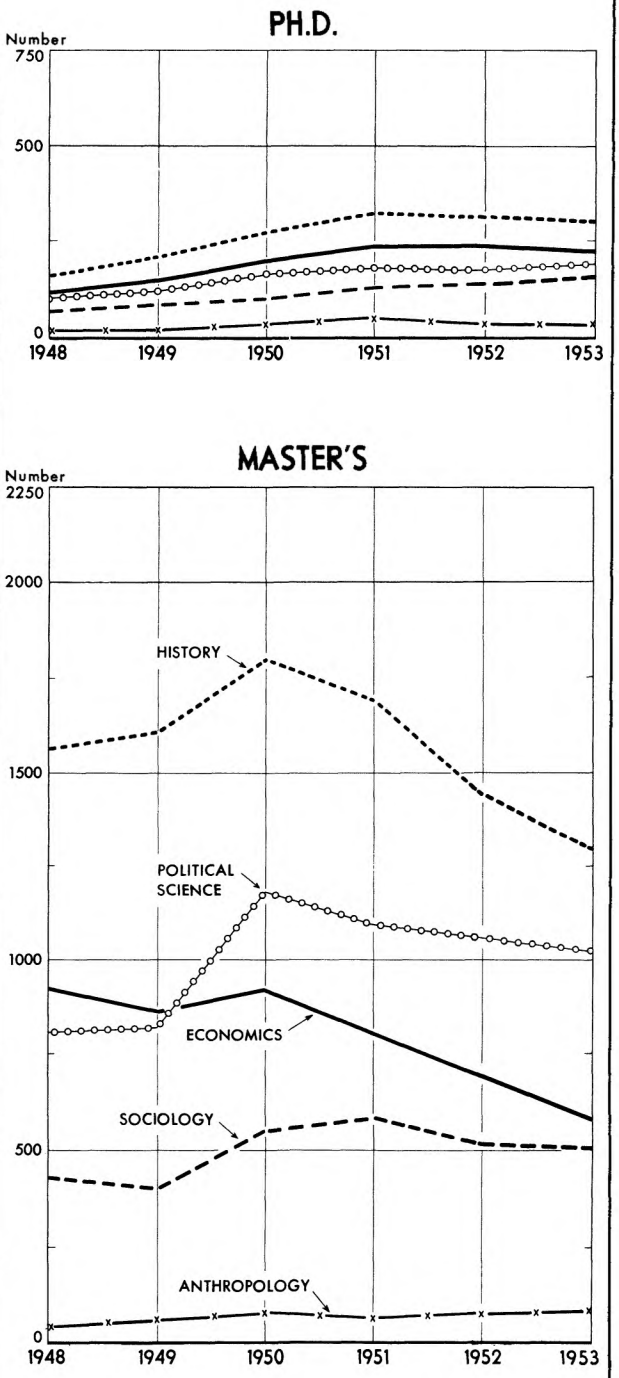
Chart 2. Numbers of Graduate Degrees Awarded in Basic Social Science Fields 1948 - 53



Source: U.S. Office of Education

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

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In the social sciences, as in all other fields of study, the drop in college enrollments since 1950 has caused a decrease in the number of graduates with majors in these fields. However, the number of Ph.D.'s awarded in the year ending June 1953 (943) was far above the highest prewar figure. No substantial decline in the number of doctorates is likely in the next few years, because the proportion of students taking postgraduate work is rising.

Employment Outlook

The demand for personnel in most of the social sciences was low in early 1954 in both major fields of employment--college teaching and Government. Sharp competition for available openings was expected to continue in the immediate future. However, employment in these occupations is likely to rise in the long run, especially in teaching.

Employment opportunities for college teachers in most social science fields will increase slowly until the late 1950's. College enrollments are expected to rise only moderately for the next few years, when the college age population will be relatively small owing to the low birth rates during the 1930's. Some increase is anticipated, however, because of the trend for a greater proportion of high school graduates to attend college--and this may be accelerated by the enrollment of Korean and other veterans. However, growth in the number of students will not necessarily result in a corresponding increase in demand for college teachers. Between 1950 and 1952, employment of college teachers fell much less sharply than enrollments. Though enrollments started upward again in 1953, the number of teachers will probably not rise substantially until the increase in students becomes fairly sizable.

In all social science fields some college teaching opportunities will occur as a result of replacement needs. Probably five or six hundred new instructors will be required annually during the next few years as a result of the normal turnover of faculty personnel. However, employment prospects in the individual fields of specialization will vary with the supply of trained people. In history, where the number of Ph.D.'s conferred each year tends to be relatively large, there will be keen competition for

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positions in colleges, and some Ph.D.'s will probably enter the high school teaching field.[50] Economists will be in a more favorable position than sociologists and anthropologists because many will be qualified to teach in schools of business administration as well as in liberal arts schools.

It is expected that employment opportunities for instructors of statistics will expand at a greater rate than those for teachers of other social science subjects. The rising demand for statistically trained people in business administration, engineering, and the natural sciences, as well as in traditional social science fields, has already resulted in an increase in the number of institutions offering courses in statistics, and further expansion is likely. At the same time, since relatively few schools offer advanced training in this field, the supply of highly trained statisticians is limited. Increased demand for well trained statisticians and a limited supply of available entrants, will result in very good employment prospects in teaching.

In the Federal Government, opportunities for new graduates to enter professional social science work dropped sharply in early 1953. The Civil Service Commission suspended plans to hold new examinations for economists because of the size of the registers of displaced career employees in social science occupations. Opportunities for new entrants will probably improve somewhat during the next few years as agencies seek to replace personnel lost through turnover, but it is unlikely that any sharp increase in employment in social science occupations will occur in this period. Even in 1951 there was evidence that the expansion of social science employment in the Federal Government was slowing down. Between 1947 and 1951, Federal employment in social science occupations increased only 14 percent, whereas Government employment increased by a third in all white-collar occupations taken together and by 80 percent in physical science occupations.

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[50] High school enrollments will, of course, rise much sooner than will college enrollments. It is anticipated that there will be a sharp increase in the number of high school students by 1957, which will markedly increase the demand for high school teachers in the social studies courses. History teachers will benefit most from this expansion in demand, but teachers trained in other social science fields will also have greater opportunities for employment in this field.

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Employment opportunities for social scientists are expected to increase, in the long run, particularly in college teaching. The demand for college teachers will expand markedly early in the 1960's. By 1965 the college-age population will be about 45 percent higher than in 1953, and in 1970 it will be nearly 75 percent higher. In addition, the proportion of the young people entering college is expected to rise further. If this proportion rises at about the same rate during the next decade as in the 1920-40 period (when the increase was from 8 to over 15 percent of the 18-21 year age group) the number of students enrolled will be approximately 3.8 million by 1970, as compared with 2.25 million in 1953. This estimate is based on very conservative assumptions, and it is possible that enrollments will increase much more rapidly.[51] In any case, the demand for college teachers will rise at an increasingly swift pace during the 1960's. This expansion, combined with replacement needs, will probably provide sufficient teaching opportunities for the number of persons likely to be granted Ph.D.'s in most social science fields; persons with lesser degrees will probably continue to have difficulty in obtaining permanent appointments in high-ranking institutions.

Employment of social scientists in Government is dependent on public policy, expressed in legislation and funds appropriated and the administrative decisions which follow. These developments are difficult to anticipate. Many of the legislative enactments in recent years (including social security, aid to agriculture, regulation of securities exchanges, labor-management relations, and minimum labor standards) which created a need for the employment of additional social scientists now appear to be established as basic public policy. That the United States will continue to have a leading role in world affairs is generally recognized. This will require knowledge of social and economic conditions in foreign countries, supplied to a large extent by social scientists. On the other hand, employment prospects are affected by public opinion, a large segment of which favors a reduction in Government expenditures.

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[51] Several estimates of future college enrollments based on less conservative assumptions have been published. For example, an estimate of enrollments between 4.3 million and 4.6 million in 1970 was made by Wellemeyer and Lerner in Higher Education Faculty Requirements in the Humanities and the Social Sciences, 1952-1970, School and Society, November 14, 1953, Vol. 78, No. 2020, (pp. 145-152).

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In addition to these diverse factors influencing employment of social scientists in Government is the fact that in periods of crisis the need for such personnel tends to rise sharply. During the past 20 years, expansion in employment of social scientists has been most marked in times of domestic or international emergencies. For example, the employment of economists and statisticians increased sharply during the depression years and again during World War II. The post-World War II increase in employment of military and other intelligence specialists was made necessary by the international tension in this period. Future crises would be likely to have similar effects.

In private industry there will probably be a slow but steady increase in opportunities for social scientists--especially economists, statisticians, and sociologists--over the long run. Many companies are turning to scientific analysis of business trends in forecasting sales, planning purchasing and production schedules, and determining personnel needs. Business and industry will probably employ more statisticians as new ways are found to save time and money through the use of statistical tools in quality control and other business operations.

Replacement of social science personnel will continue to be a major source of employment opportunities in the long run as well as in the immediate future. The rate of turnover in college faculty--due in part to retirements and deaths, and in part to movement of personnel into other fields of work because contracts are not renewed or business offers are more attractive financially--is likely to be higher than that in other fields of employment. The proportion of teachers who must be replaced each year for these reasons may run as high as 3 or 4 percent.

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EARNINGS

Social Scientists with Graduate Degrees

Social scientists with Ph. D.'s earn substantially more, on the average, than those with less education. According to a survey limited largely to professional society members, Ph. D.'s had median annual salaries in 1952 ranging from $5,500 for historians to $7,500 for statisticians. For holders of master's degrees, median salaries were $1,300 and $1,500 less in these two fields, as shown by the following figures:[52]

Occupation	1952 median annual salary: Master's degree	1952 median annual salary: Doctor's degree
Anthropologists	$ 4,500	$ 5,800
Economists	5,400	7,200
Historians	4,200	5,500
Political scientists	5,300	6,100
Sociologists	4,100	5,800
Statisticians	6,000	7,500

The differences in salary levels between Ph. D.'s and master's are accounted for partly by the higher average age, and hence the greater experience, of the Ph. D.'s. Nevertheless, in nearly every age group, median salaries were highest for persons with the doctorate.[53]

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[52] Data obtained in a survey which will be published by the Bureau of Labor Statistics in a forthcoming bulletin on personnel resources in the social sciences and humanities. The survey was limited to members of the professional associations and to persons nominated by members of these associations, and probably tends to include a high proportion of the most successful people in the various fields of work. Salaries are undoubtedly higher than actual average salaries prevailing for all social scientists in each of the fields listed. For further information on the survey see footnote 19.

[53] For example, in the age group 30-34 years, median annual salaries of Ph.D.'s were as follows: anthropologists, $4,700; economists, $5,400; historians, $4,400; political scientists, $4,700; sociologists, $5,100; statisticians, $6,700. The corresponding salaries of holders of master's degrees in the same age group were: $4,200; $5,000; $3,900; $4,800; $3,900; and $5,500.

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Table 7.--Median salaries of social scientists employed by colleges or universities and proportion receiving supplementary professional income, 1952

Field of employment	Median salary[1]	Percent receiving supplementary income
Anthropology	$5,200	56.3
Economics	5,500	66.4
History	5,000	54.9
Political science	5,100	69.0
Sociology	5,000	60.6
Statistics	5,800	64.2

[1] Median salaries rounded to the nearest 100.

Source: Personnel Resources in the Social Sciences and Humanities, a forthcoming bulletin to be published by the Bureau of Labor Statistics.

Colleges and Universities

Salaries of social scientists employed by colleges and universities do not vary greatly by subject specialty. Median salaries in college-level institutions in 1952 ranged from $5,000 for historians and sociologists to $5,800 for statisticians (table 7).

Salaries of teachers are more affected by the size and type of institution in which they are employed than by their subject field. The median salary for all full-time faculty members in 51 land-grant colleges and universities in 1951-52 was $5,167; in 5 very large institutions, the median was $5,911, but in 26 small schools it was $4,721.[54] In 17 land-grant institutions for Negroes

[54] U. S. Office of Education, Faculty Salaries in Land-Grant Colleges and State Universities, 1951-52, Circular 358, Government Printing Office, Washington 25, D. C., 1952.

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in southern States, the median salary was $4,063. The median salary in 20 State universities in 1951-52 was $5,208--somewhat higher than that in the land-grant colleges and universities, but differences in salary levels among institutions of various sizes were less marked in State universities than in land-grant institutions. Salary levels in privately controlled educational institutions vary much more widely.[55]

College teachers' salaries are more affected by their rank than by any other factor. The differences in median salaries of college teachers of various ranks are shown in the following tabulation:

Faculty rank	Median salaries on 12-month basis in 1951-52 [1]
Dean	$ 8,697
Professor	7,166
Associate professor	5,888
Assistant professor	5,066
Instructor	4,178

[1] U. S. Office of Education, Circular No. 358 (p. 16).

Many social scientists employed by colleges or universities receive supplementary professional income from such sources as summer school teaching, royalties from publications, and consulting fees. Opportunities for earning supplementary income are greatest for political scientists, economists, and statisticians. In all fields except statistics, the major source of such income is extra teaching. In 1952, about 25 percent of the statisticians who were regularly employed as college teachers reported consultation as their principal source of additional income (appendix table B).

Some indication of the amount of supplementary income received by college teachers from summer teaching is provided in a report on the earnings of full-time faculty members in land-grant institutions. This report showed a difference of nearly $900

[55] For a comparison of salaries of teachers in land-grant institutions with those in other types of institutions, see Salary - Schedule Provisions or Salaries Paid in Degree-Granting Institutions, 1952-53, National Education Association, Research Bulletin, Vol. XXXI, No. 4, December 1953.

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in 1951-52 between the median salaries of faculty members teaching on a 9-month basis ($4,848) as compared with those on a year-round (11-12 month) basis ($5,747).[56]

Federal Government

Positions in the Federal civil service are graded according to the training, experience, and skill required and the degree of responsibility involved. Salary rates have been established for each grade of position. New graduates with the bachelor's degree appointed to professional positions usually begin at grade 5 with a yearly salary of $3,410 (as of early 1954); those with a master's degree (or the equivalent in education and qualifying experience) usually begin at grade 7 with a salary of $4,205. Social scientists with a Ph. D. (or equivalent combination of education and experience) are eligible for appointment at grade 9 ($5,060), but jobs at this level are usually filled by promotion from within. Periodic in-grade increases are given at regular intervals, up to the specified maximum salary for the employee's grade, provided work is rated as satisfactory.

Average salaries of Federal Government social scientists in different occupational classifications and the relative numbers in each grade are shown, as of June 30, 1951, in table 8. Salaries of Government workers were subsequently increased by 10 percent of the minimum rate for each grade, so that the averages shown are roughly 10 percent lower than the averages in July 1951 when the latest change in Federal white-collar salary schedules took place.

Economists, who constituted the largest group of Government social scientists, had average salaries ranging from a low of $5,782 for labor economists to a high of $7,231 for fiscal economists in June 1951. Statisticians, the next largest group, averaged $5,698. Salaries in military intelligence research and foreign affairs, the two largest employment specialties in the general social science field, averaged $5,739 and $5,843, respectively. The small group of general anthropologists had the highest average salary, $8,686; archivists and archeologists the lowest, $4,859 and $4,762, respectively.

Relatively few social scientists in the Federal Government receive supplementary professional income from sources outside their regular work. Approximately one-fourth of the

[56] U. S. Office of Education, op. cit.

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Table 8.--Grade distribution and average annual salary of Federal employees in social science occupations, June 30, 1951
(Continental United States)

Occupation	Total	Grade											Not specified	Average annual salary
		5	6	7	8	9	10	11	12	13	14	15-18		
Total, all social science employees[1]	9,377	811	14	1,504	27	1,616	14	1,369	1,696	1,174	668	460	24	--
Percent	100.0	8.6	.2	16.0	.3	17.2	.2	14.6	18.1	12.5	7.1	4.9	.3	--
Social administration	321	8	--	10	--	51	--	66	87	69	19	11	--	$6,578
Economics														
General economics	208	22	--	19	2	22	--	25	41	28	27	17	5	6,643
Business economics	1,219	117	--	212	1	171	--	183	212	158	98	67	--	6,072
International trade and development economics	392	16	--	40	1	44	--	54	44	71	65	57	--	7,103
Fiscal and financial economics	217	10	2	19	1	30	--	20	19	44	35	37	--	7,231
Transportation economics	134	6	--	12	1	21	--	16	33	23	13	4	5	6,431
Labor economics	462	39	--	112	--	72	--	65	77	53	25	19	--	5,782
Agricultural economics	588	20	--	70	--	97	1	101	121	110	55	9	4	6,308
Forest economics	41	--	--	8	--	8	--	7	6	11	1	--	--	6,051
Foreign affairs	1,136	197	4	217	2	186	--	131	94	110	95	100	--	5,843
International relations	210	10	2	20	--	12	--	14	30	51	31	40	--	7,454
Intelligence research	336	26	--	49	--	71	--	44	48	46	31	21	--	6,158
Military intelligence research	894	69	1	154	4	194	3	152	150	99	52	16	--	5,739
History	294	19	--	48	7	89	2	44	50	23	7	5	--	5,512
General anthropology	6	--	--	--	--	--	--	--	--	2	4	--	--	8,686
Physical anthropology	29	--	--	3	--	10	--	6	9	1	--	--	--	5,647
Archeology	38	9	--	10	--	9	--	5	3	1	1	--	--	4,762
Ethnology	5	--	--	1	--	--	--	1	2	1	--	--	--	6,210
Scientific linguistics	14	--	--	--	--	2	1	4	4	2	--	1	--	6,479
Museum	49	1	3	10	--	16	--	6	3	5	3	2	--	5,616
Archives	273	50	--	79	1	62	2	39	25	11	1	3	--	4,859
Statistics	2,038	175	2	376	7	409	5	366	314	238	91	46	9	5,698
Social science (n.e.c.)	473	17	--	35	--	40	--	20	324	17	14	5	1	6,362

[1] Sociologists and political scientists are not classified as such but are included in many of the categories here listed.

Source: Bureau of Labor Statistics Bulletin No. 1117, Federal White-Collar Workers--Their Occupations and Salaries, June 1951.

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anthropologists and sociologists and one-fifth of the other federally employed social scientists reported supplementary income in the 1952 survey of social scientists (appendix table B).

Salaries of Foreign Service officers are subject to a classification system specifically devised for them. There are seven classes, with career ministers at the top. New appointees enter in class 6, where salaries range from $4,000 to $5,100 depending on age, experience, and qualifications. Foreign Service officers stationed abroad get "quarters" allowance or assignment to free Government quarters, and if the cost of living is higher at the employee's station than it is in Washington, D. C., an extra cost-of-living allowance is granted.[57]

Other Types of Employment

Salaries of social scientists employed by other agencies tend to vary more widely than those in the two major areas of employment--colleges and the Federal Government.

State and local governments usually have somewhat lower pay scales than the Federal Government. However, a few social scientists, particularly economists and political scientists, may eventually attain high-paying administrative posts in large city or State Governments.

Social scientists engaged in professional work in private industry receive higher salaries, on the average, than either college teachers or Government employees. The only groups with substantial numbers employed in private industry--economists and statisticians--had higher median salaries in this type of employment in 1952 than the average for these occupations in all types of employment taken together.[58] Men students graduating from college in 1954 with a major in economics received about the same salaries as other general business trainees--an average of approximately $310 per month.

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[57] Department of State, The U. S. Foreign Service, April 1952 (pp. 12-13).

[58] Data obtained in a survey which will be published by the Bureau of Labor Statistics in a forthcoming bulletin on personnel resources in the social sciences and humanities. See also, American Economic Review, Graduate Education in Economics, by Howard R. Bowen, Supplement, Part 2, September 1953 (p. 29).

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Salaries of social scientists employed by nonprofit organizations, such as foundations and research councils, are extremely varied, but in general, the average is somewhat above that for college teachers in the social sciences.

Social scientists who enter high school teaching receive salaries comparable with those of high school teachers trained in other subject fields. Classroom teachers in public secondary schools had an estimated average salary of about $4,000 in the 1953-54 school year.[59] Average salaries were over $4,500 in California, New York, New Jersey, and Washington, but were under $3,500 in some southern States and in other States with a large rural population.

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[59] National Education Association, Research Division, "Advance Estimates of Public Elementary and Secondary Schools for the School Year 1953-54," November 1953 (mimeographed).

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WHERE TO GET FURTHER INFORMATION

The following organizations in the social science fields will furnish information concerning their respective professions:

American Anthropological Association
R. S. Peabody Foundation
Andover, Mass.

American Economic Association
Northwestern University
Evanston, Ill.

American Historical Association
Library of Congress Annex
Washington 25, D. C.

American Political Science Association
1785 Massachusetts Ave., N. W.
Washington 6, D. C.

American Sociological Society
New York University
Washington Square
New York 3, N. Y.

American Statistical Association
1108 - 16th St., N. W.
Washington 6, D. C.

The professional societies stipulate the requirements for membership, setting different standards for associate and other types of membership. Their definitions of the amounts of education and experience needed for professional membership have an important effect upon the college courses of study set up for training purposes. The societies interpret their profession to the public at large and often serve as sources of information regarding employment opportunities, training facilities, and other subjects ofinterestto prospective entrants. They usually publish professional journals and research papers, and hold national, regional, and local chapter meetings. Some of the societies maintain a placement service for members.

The Social Science Research Council, 230 Park Ave., New York 17, N. Y., was organized for the purpose of planning and promoting research in the social sciences and related fields. Its members are chosen from the professional societies listed above, and the American Psychological Association.

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The American Council of Learned Societies, 1219 Sixteenth St., N. W., Washington 6, D. C. is a federation of 25 national organizations representing the social sciences and humanities. Recently the Council has been active in establishing a register of social scientists and related professional workers.

Colleges and Universities

Students and prospective students can obtain information on specific social science fields from many college-level institutions, particularly those that have well-organized guidance facilities. The heads of the departments in which the various subject fields are taught can often furnish valuable information concerning the nature of the work of the social scientist, the requirements for entering various fields of employment, and placement opportunities.

Government Sources

Announcements of examinations for social science positions with the Federal Government are available from the U. S. Civil Service Commission, Washington 25, D. C., or its 12 regional offices, and are posted in many post offices.

Information on foreign service positions may be obtained directly from the U. S. Foreign Service, Department of State, Washington 25, D. C.

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APPENDIX

List of universities awarding the greatest numbers of Ph.D.'s in the social sciences, 1948-53

Anthropology	Number of Ph.D.'s
Columbia University	47
University of Chicago	30
Harvard University	24
University of California	22
Yale University	17
Northwestern University	10
University of Michigan	7
University of New Mexico	7
Cornell University	5
University of Pennsylvania	5

Economics	
Harvard University	218
University of Chicago	85
University of Wisconsin	84
Columbia University	73
University of Illinois	51
University of California	47
Iowa State College A and M	42
Massachusetts Institute of Technology	41
University of Pennsylvania	40
Ohio State University	34

History	
Harvard University	190
Columbia University	145
University of California	123
University of Chicago	95
University of Wisconsin	78
University of Texas	53
Stanford University	50
Yale University	49
University of Pennsylvania	46
University of North Carolina	46

Political Science	Number of Ph.D.'s
Harvard University	145
University of Chicago	81
Columbia University	73
University of California	49
Georgetown University	34
Princeton University	34
Fordham University	33
New York University	31
University of Wisconsin	30
University of Minnesota	28

Sociology	
University of Chicago	111
Harvard University	85
Columbia University	42
University of North Carolina	41
Ohio State University	36
Cornell University	26
Yale University	26
University of Southern California	23
University of Wisconsin	23
Catholic University	21

Source: Compiled from U. S. Office of Education, Annual Reports on Earned Degrees Conferred by Higher Educational Institutions. U. S. Government Printing Office, Washington 25, D. C.

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List of additional colleges and universities awarding Ph.D.'s in the social sciences in 1953[1]

Anthropology

University of Arizona
Indiana University
University of Washington

Economics

Stanford University
University of Southern California
University of Colorado
Yale University
University of Florida
Indiana University
University of Kentucky
Louisiana State University
Johns Hopkins University
Clark University
Radcliffe College
University of Michigan
University of Minnesota
St. Louis University
Washington University
University of Nebraska
Princeton University
Cornell University
New School of Social Research
Syracuse University
Duke University
University of North Carolina
University of Cincinnati
University of Oregon
Brown University
University of Texas
University of Virginia
American University
Catholic University
Georgetown University
State University of Iowa

See footnote at end of List.

History

Claremont College
University of Southern California
University of Colorado
Northwestern University
University of Illinois
Indiana University
University of Notre Dame
State University of Iowa
University of Kentucky
Louisiana State University
Tulane University
Johns Hopkins University
University of Maryland
Boston University
Clark University
Radcliffe College
Michigan State College
University of Michigan
University of Minnesota
St. Louis University
University of Nebraska
Princeton University
University of New Mexico
Cornell University
Fordham University
New York University
St. Johns University
Syracuse University
Duke University
Ohio State University
Western Reserve University
University of Oklahoma
University of Oregon
Bryn Mawr College
Dropsie College
Pennsylvania State College
University of Pittsburgh
University of South Carolina
George Peabody College
Rice Institute
Texas Technical College
University of Virginia
University of Washington
West Virginia University
American University
Catholic University
George Washington University
Georgetown University

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List of additional colleges and universities awarding Ph.D.'s in the social sciences in 1953[1] --Continued

Political Science	Sociology
Stanford University	Stanford University
University of Southern California	University of California
University of Colorado	University of Colorado
Yale University	Northwestern University
University of Florida	Indiana University
Northwestern University	Purdue University
University of Illinois	Iowa State College
Indiana University	State University of Iowa
University of Notre Dame	Louisiana State University
State University of Iowa	Michigan State College
University of Kansas	University of Michigan
Johns Hopkins University	University of Minnesota
University of Maryland	Washington University
Radcliffe College	University of Nebraska
University of Michigan	New York University
University of Minnesota	New School of Social Research
St. Louis University	St. Johns University
Washington University	Syracuse University
University of Nebraska	Duke University
Rutgers University	Bryn Mawr College
New School of Social Research	Pennsylvania State College
Syracuse University	University of Pennsylvania
Duke University	University of Pittsburgh
Bryn Mawr College	Vanderbilt University
Pennsylvania State College	State College of Washington
University of Pennsylvania	University of Washington
University of Texas	American University
University of Utah	George Washington University
University of Washington	
American University	
Catholic University	
Georgetown University	

[1] See page 59 for the 10 universities giving the largest number of degrees in each field.

Source: U. S. Office of Education, "Earned Degrees Conferred by Higher Educational Institutions 1952-1953," Circular No. 380, U. S. Government Printing Office, Washington 25, D. C., 1954.

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Table A.--Number of degrees awarded in all subject fields and in basic social science fields, 1948-53

Academic year	Total degrees	Bachelor	Master	Ph.D.
All subject fields:				
1947-48	318,749	272,144	42,417	4,188
1948-49	422,754	366,634	50,827	5,293
1949-50	498,588	433,733	58,218	6,637
1950-51	456,822	384,352	65,132	7,338
1951-52	403,078	331,924	63,471	7,683
1952-53	374,189	304,857	61,023	8,309
Total	2,474,180	2,093,644	341,088	39,448
Social science:[1]				
1947-48	36,386	32,032	3,895	459
1948-49	45,536	40,821	4,107	608
1949-50	57,210	51,422	4,966	822
1950-51	49,909	44,126	4,801	982
1951-52	42,494	37,192	4,372	930
1952-53	39,172	34,090	4,139	943
Total	270,707	239,683	26,280	4,744
Anthropology:				
1947-48	227	168	43	16
1948-49	379	299	61	19
1949-50	440	324	82	34
1950-51	373	255	67	51
1951-52	370	257	76	37
1952-53	332	214	85	33
Total	2,121	1,517	414	190
Economics:				
1947-48	10,040	9,002	922	116
1948-49	12,548	11,536	863	149
1949-50	15,694	14,573	921	200
1950-51	11,529	10,484	809	236
1951-52	9,529	8,595	695	239
1952-53	8,117	7,313	582	222
Total	67,457	61,503	4,792	1,162
History:				
1947-48	10,973	9,245	1,566	162
1948-49	12,312	10,491	1,609	212
1949-50	15,643	13,567	1,801	275
1950-51	14,339	12,321	1,693	325
1951-52	11,978	10,216	1,445	317
1952-53	11,171	9,576	1,294	301
Total	76,416	65,416	9,408	1,592

See footnotes at end of table.

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Table A.--Number of degrees awarded in all subject fields and in basic social science fields, 1948-53--Continued

Academic year	Total degrees	Bachelor	Master	Ph.D.
Political science:[2]				
1947-48	5,779	4,874	806	99
1948-49	7,056	6,116	821	119
1949-50	8,944	7,599	1,179	166
1950-51	7,959	6,685	1,093	181
1951-52	6,967	5,731	1,059	177
1952-53	7,235	6,022	1,021	192
Total	43,940	37,027	5,979	934
Sociology:				
1947-48	6,767	6,271	430	66
1948-49	7,192	6,706	403	83
1949-50	8,537	7,887	552	98
1950-51	8,033	7,320	584	129
1951-52	7,355	6,697	517	141
1952-53	6,763	6,102	504	157
Total	44,647	40,983	2,990	674
Social science (not elsewhere classified)				
1947-48	2,600	2,472	128	--
1948-49	6,049	5,673	350	26
1949-50	7,952	7,472	431	49
1950-51	7,676	7,061	555	60
1951-52	6,295	5,696	580	19
1952-53	5,554	4,863	653	38
Total	36,126	33,237	2,697	192

[1] Includes anthropology, economics, political science, sociology, history, and social science, not elsewhere classified. Excludes social work, psychology, geography, and other border fields. Most students specializing in statistics take their degrees in the fields in which they intend to apply their training -- most often, in economics.

[2] Includes international relations and public administration.

Source: Compiled from U. S. Office of Education, Annual Reports on Earned Degrees Conferred by Higher Educational Institutions. U. S. Government Printing Office, Washington 25, D. C.

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Table B.--Sources of additional income of social scientists by principal type of employer, 1952
(Percent distribution)

Type of employer[1]	Total reporting	No additional income	Total reporting additional income	Source of additional income			
				Extra teaching	Consultation	Royalties	Other[2]
Total	100.0	53.2	46.8	22.7	8.0	5.3	10.8
Anthropology	100.0	53.1	46.9	20.9	6.1	4.7	15.2
College or university	100.0	43.7	56.3	27.6	6.3	5.7	16.7
Federal Government	100.0	74.5	25.5	10.6	--	2.1	12.8
Nonprofit research organization	100.0	63.4	36.6	13.3	10.0	3.3	10.0
Economics	100.0	51.6	48.4	20.8	12.2	5.0	10.4
College or university	100.0	33.6	66.4	30.2	16.3	6.7	13.2
International government organization	100.0	64.9	35.1	10.8	10.8	5.4	8.1
Federal Government	100.0	78.8	21.2	8.1	4.8	3.1	5.2
State and local government	100.0	70.0	30.0	12.5	10.0	--	7.5
Nonprofit research organization	100.0	52.7	47.3	18.2	10.9	3.6	14.6
Other nonprofit organization	100.0	48.7	51.3	16.2	13.5	8.1	13.5
Private industry (employee)	100.0	56.7	43.3	17.7	11.8	3.0	10.8
History	100.0	50.0	50.0	28.1	1.3	7.9	12.7
College or university	100.0	45.1	54.9	31.6	1.1	8.5	13.7
Other educational institution	100.0	65.2	34.8	21.3	2.2	3.4	7.9
Federal Government	100.0	79.3	20.7	10.8	.8	6.6	2.5
State and local government	100.0	64.0	36.0	8.0	4.0	8.0	16.0
Political science	100.0	52.9	47.1	23.1	7.7	5.3	11.0
College or university	100.0	31.0	69.0	36.9	9.3	8.4	14.4
Federal Government	100.0	80.1	19.9	8.7	2.7	2.2	6.3
State and local government	100.0	68.9	31.1	11.5	9.8	1.0	8.8
Nonprofit research organization	100.0	59.6	40.4	6.4	12.7	--	21.3
Other nonprofit organization	100.0	58.3	41.7	16.7	12.5	8.3	4.2

See footnotes at end of table.

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Table B.--Sources of additional income of social scientists by principal type of employer, 1952--Continued

(Percent distribution)

Type of employer[1]	Total reporting	No additional income	Total reporting additional income	Source of additional income			
				Extra teaching	Consultation	Royalties	Other[2]
Sociology	100.0	46.0	54.0	27.7	7.0	5.4	13.9
College or university	100.0	39.4	60.6	32.2	7.2	6.2	15.0
Federal Government	100.0	75.4	24.6	13.7	4.1	2.7	4.1
State and local government	100.0	62.5	37.5	21.4	5.4	--	10.7
Nonprofit research organization	100.0	61.8	38.2	4.8	4.8	4.8	23.8
Other nonprofit organization	100.0	58.1	41.9	12.9	9.7	6.4	12.9
Private industry (employee)	100.0	73.3	26.7	3.3	10.0	6.7	6.7
Statistics	100.0	68.9	31.1	14.2	9.6	2.5	4.8
College or university	100.0	35.8	64.2	22.0	25.2	6.3	10.7
Federal Government	100.0	79.1	20.9	11.1	3.9	1.7	4.2
State and local government	100.0	82.0	18.0	6.4	9.0	1.3	1.3
Nonprofit research organization	100.0	69.6	30.4	8.7	8.7	8.7	4.3
Other nonprofit organization	100.0	67.7	32.3	12.9	16.2	--	3.2
Private industry (employee)	100.0	72.5	27.5	17.1	5.4	1.2	3.8

[1] Employer groups with fewer than 20 people omitted.

[2] Includes income from lectures, other fees and honoraria, and other sources of professional income.

Source: Data obtained in a survey which will be published by the Bureau of Labor Statistics in a forthcoming bulletin on personnel resources in the social sciences and humanities.

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