Alfred P. Sloan Foundation

ANNUAL REPORTS

My concept of a Foundation is that its resources should be considered "risk capital," to be employed in furthering projects of potential value in promoting the public welfare. By so directing their resources, Foundations can and will increasingly become an important force in stimulating higher standards of education, broader concepts of research, and the advancement of both social and economic progress through fundamental investigation and study.

ALFRED P. SLOAN, JR.

ALFRED P. SLOAN FOUNDATION, INC.

630 FIFTH AVENUE, NEW YORK 20, N. Y.

Report for 1955-1956

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[1]Elected September 27, 1956
[2]Elected April 17, 1956

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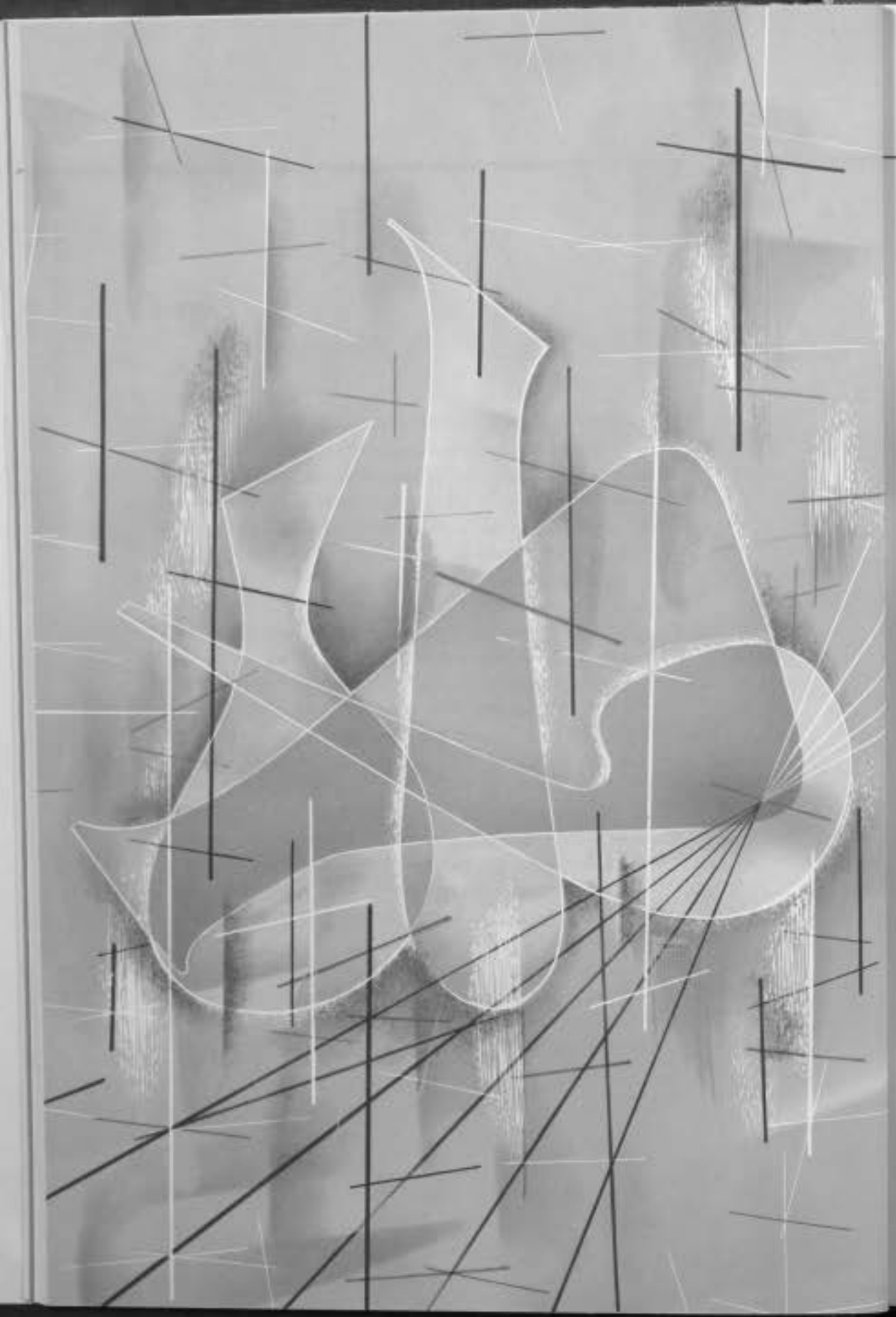
PREFACE

THE ALFRED P. SLOAN FOUNDATION, INC. administers a private fund for the benefit of the public. It accordingly recognizes the responsibility of making periodic reports to the public on the management of this fund. This *Report* has been prepared by direction of the Foundation's Trustees for the biennium 1955-1956.

Activity of the Foundation is confined to providing financial support for approved projects administered by educational, scientific and charitable institutions. The Foundation does not itself engage in educational or research activity or conduct projects of any sort.

In the following pages, recipients of the Foundation's grants are identified; so also are the sums involved and the nature of the various undertakings which the grants have financed. In addition, an attempt is made to explain the principles and policies which are observed by the Foundation's administrative staff and the Trustees in deciding which of the hundreds of worthy projects, annually brought to their attention, shall receive favorable consideration.



The Private Foundation in American Society

DURING THE PAST quarter century private foundations like the Alfred P. Sloan Foundation, Inc. have become something of a fixture on the American scene. In that same period, despite an occasional critical opinion, they appear to have acquired a considerable measure of public confidence. These observations are especially applicable to the one hundred or more organizations comparable to this Foundation which best fulfill Emerson Andrews' description of the contemporary private foundation, namely, a "non-governmental, non-profit organization having a principal fund of its own, managed by its own trustees or directors, and established to maintain or aid social, educational, charitable, religious or other activities serving the common welfare."[1]

That the foundation thus described has found a place for itself in American society may perhaps be implied from the increase both in their number and in their assets. In 1930, four years before the Alfred P. Sloan Foundation, Inc. received its charter, there were only four foundations having assets of $50 million or more. In 1953 there were fourteen such foundations. Assets and expenditures have risen correspondingly. In 1953 Mr. Andrews estimates that, among seventy-seven of the larger foundations, assets amounted to somewhat over $3 billion and annual expenditure exceeded $163 million.[2]

Not only have many new foundations appeared, but the older ones, contrary to what seems to have been generally contemplated a generation ago, have continued in existence and even increased their resources.

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[1] See *Philanthropic Foundations* (New York 1956) p. 334.
[2] *Ibid.*, p. 108. Some of the assets are reckoned at ledger value and others at market value.

Twenty-five years ago, distribution of a foundation's assets within a relatively short period, and liquidation of its corporate existence, were the frequently stated objectives of the donor. Sometimes the donor recommended liquidation within a specific number of years; and in any case the charters of most foundations, like the charter of this Foundation, permitted trustees or directors to draw upon principal as well as income and thus gave them the opportunity to liquidate after a suitable interval if they chose to do so. However, as the record indicates, few governing bodies of foundations have exercised this option to terminate operations. This may be merely an illustration of the normal tendency of almost any organization to perpetuate itself; but the real explanation appears to be that foundations have discovered they can best serve society by avoiding precipitate liquidation and continuing to operate indefinitely.

Belief in their continuing social usefulness and the measure of public approval which foundations appear to have won for themselves result in the first place from the very considerable latitude which charters and the law confer upon their governing boards. Traditionally foundation charters, whether granted by the state or federal governments, have not required foundation boards to apply available funds to specific purposes; on the contrary, charters have permitted the greatest freedom in choosing the kinds of projects which a foundation might support. Usually the entire spectrum of possible philanthropic enterprises has been made available. As indicated on a later page,[1] the charter of this Foundation, for example, allows its Trustees to make grants for operations of a "religious, charitable, scientific, literary or educational nature"; and the only major restriction which the law imposes is that implicit in the requirement that funds shall not be used to influence legislation.

It is this freedom and more particularly the wise use of it that has given the contemporary private foundation a unique philanthropic rôle and won for it a wide measure of public approbation. In the aggregate, foundation funds available for commitment comprise less than five per

[1] See p. 152.

cent of the private funds given to charitable and related purposes annually. If these funds had to be allocated to certain narrow purposes or in any case were to be distributed for conventional purposes, they would have little if any impact and the continuation of their donors' foundations could hardly be justified. It is only because of the freedom permitted by charters and the law that trustees and other governing bodies of foundations have been able to apply the limited funds at their disposal in such a manner as to secure a maximum social return, establish a unique philanthropic rôle for foundations, and, over the past quarter century, win public approval of the foundation as a private fund operating in the public interest.

The nature of this peculiar discretion enjoyed by foundations and its use in the public interest can be illustrated in many ways. A foundation's representatives often use the phrases "social risk capital" or "social venture capital" or some similar semantic formula to describe this discretion. What these phrases mean is that in applying funds to projects which staff and trustees believe are most likely to advance the public welfare, foundations can afford to ignore the pressure of conformity and tradition which usually affect the distribution of funds from other sources. As a result a foundation can be uniquely selective. It can concentrate its funds upon the most promising projects, denying aid to others. It can place all of its money on research projects if it wishes and deny funds (which, in fact, it usually does) to building projects or to the maintenance of established educational and charitable enterprises. Nor does it have to observe some rule of geographical distribution in allocating available funds. Indeed it does not have to observe any mathematical yardstick in distributing its funds or recognize the claims of any particular constituency over another. Virtually the sole criterion affecting its judgment is the intrinsic merit of a project. Moreover the foundation is uniquely able to do the unpopular thing if that seems essential to the public welfare; or to support investigation of a controversial subject; or to apply its resources to activities which, though intrinsically significant under any *bona fide* system of values, are the victim of social indifference or public apathy.

Because they are in a position to exercise such freedom of choice and because they are relatively free of the pressures of philanthropic conformity and conventionalism, private foundations can, and often do, take the initiative in reminding the country that certain facets of its culture are being neglected and that others are being overemphasized; and, having issued such a reminder, they can use their funds in part to introduce a corrective trend. If, for example, relatively too much money is going to applied science and not enough to pure science, a private foundation, by the proper allocation of its resources, can introduce a healthier equilibrium. Such action was taken by this Foundation two years ago in introducing its basic science project, to be discussed on a later page.[1] Again, if education in the liberal arts is languishing, private foundations are likely to lead the way in calling attention to that fact and to use some of their resources to investigate the condition and provide appropriate recommendations. If educational authorities suggest that teacher education ought to be improved, it is the private foundations which are likely to provide funds for the experimental type of project which may open the way toward improvement. Or, again, if a new start is to be made in the investigation of a disease or some aspects of its therapy, it is to the private foundations that interested experts are likely to turn for support of the necessary initiative.

An excellent illustration of this kind of imaginative and socially valuable use of foundation resources was afforded recently when it became apparent that privately-supported higher educational institutions must develop new sources of income. The record indicates that it was largely the private foundations which provided much of the initial impetus, both financial and otherwise, for the effort subsequently made to examine into prospective new sources of income and to suggest various patterns of giving to prospective new donors to higher education. Augmented industrial support of colleges and universities since the close of World War II and the extraordinary expansion of private scholarships and fellowships at every level, undergraduate, graduate and professional, owe much to this initiative and wise generosity of the private foundations.

[1] See p. 39.

These examples illustrate the special province which freedom of action and wise stewardship have permitted the private foundation to delimit for its philanthropy. Substantively that province is the extension of knowledge and science and the promotion of the useful arts. Administratively that province is distinguished by a special effort to provide leadership which, in action, means emphasis upon research, experimentation and demonstration. It is its concentration upon this special province of philanthropy which, in the past quarter century, has won for the private foundation its special position in the context of American society and won for it also the degree of confidence which the public appears to repose in it.

But if the private foundations are to maintain public confidence and continue providing their special philanthropic service to the public, they must give increased attention to two responsibilities towards that public. The first of these is the recruitment of governing boards whose members are leaders in their communities and in their respective professions or pursuits. Related to this responsibility, indeed an integral part of it, is the need to recruit competent staffs and to bring governing board and staff into touch with the ablest students and leaders in every field in which the foundation may be interested to secure their advice and counsel on the way in which the foundation's educational, research, or public-service objectives can best be attained.

A second, equally important foundation responsibility is the maintenance and improvement of the foundation's communication with the public. The private foundation has a special obligation to take the public into its confidence and to render an account of its stewardship of the resources which have been committed to it by its donors. This can be done satisfactorily only through the release of periodic reports.

That foundations are achieving more effective liaison with the public may be apparent in the fact that latterly they have become the subject of an increasing amount of comment in publications of general circulation. Major magazines are finding that foundations are of sufficient general interest to justify more than an occasional article.

Publishers of books are devoting sizable sections of volumes and even whole volumes to popular accounts of the operations of the private foundations. In short, as the foundation has become more certain of its rôle, it has apparently inspired an increasing amount of critical interest in that rôle by those who determine what activities in our society have news value. In recent years, therefore, the foundations' formal efforts to communicate with the public by way of their own reports and releases have been supplemented by a considerable amount of comment about their operations, some of it critical, some of it laudatory, all of it highly beneficial in establishing a better understanding of the precise nature of their rôle in our society.

What follows here is a formal, systematic attempt, by this Foundation, to take the general public into its confidence. It is a comprehensive report about its activities during the years 1955-1956. Although the individual sections of the report will probably appeal primarily to specialists in various educational and scientific fields, it is hoped that the volume as a whole will interest the informed layman. At any rate, it has been written primarily for his attention.

Review of Operations, 1955-1956

CONSIDERABLE EXPANSION occurred during the biennium under review, both as respects the resources of the Foundation and the magnitude of its operations. The Foundation, in which the late Mrs. Alfred P. Sloan, Jr. was a co-founder with her husband some twenty-two years ago, has been the recipient, over the years, of many substantial gifts from Mrs. Sloan. At her death, in February 1956, she left virtually all the rest of her fortune to the Foundation. By far the greater part of this additional property has already come into the possession of the Foundation, either as the principal beneficiary under Mrs. Sloan's will, or as the remainderman of certain trusts which she created and which have now terminated. Lesser, but still substantial, amounts of property will come to the Foundation in the future as certain trusts, created by will for the benefit of various individuals, come to an end.

The additional property which was thus made available by Mrs. Sloan and which has actually come into the possession of the Foundation to date amounts to about $73 million. This property, consisting in the main of marketable securities, originally included 1,278,833 shares of the common stock of General Motors Corporation. Since the Foundation already had a sizable investment in this stock, the Trustees decided that these additional shares should be sold and the proceeds reinvested in order to maintain a degree of diversification in the Foundation's portfolio. This new block of General Motors stock was accordingly sold in a secondary offering on May 8, 1956. The net proceeds from that sale were approximately $54 million. The Foundation retained its previous holding of shares of General Motors common. As indicated in the financial section of this *Report*,[1] this holding, as of December 31, 1956, was 944,350 shares.

[1] See p. 158.

During 1955 and 1956, Mr. Sloan, and Mrs. Sloan before her death, made contributions to the Foundation. As a result of these contributions and the amounts received under the will and trusts of Mrs. Sloan, together with an increase in the market value of securities held, the resources of the Foundation increased in market value from $59,369,000 at December 31, 1954 to $147,684,000 at December 31, 1956. Details of the Foundation's holdings appear in the financial section of this *Report*.[1]

In the period 1955-1956, the total expenditures of the Foundation approximated $7.2 million, as compared with $6.8 million for the preceding period, 1953-1954. The total expenditures for the various purposes of the Foundation, since its organization in 1934, have amounted to $29,700,000. Expenditures during this twenty-two year period exceeded the income of the Foundation by approximately $3,500,000. During the period, 1955-1956, there was an expansion in the volume of commitments made by the Foundation and at the end of the period, December 31, 1956, unpaid grants amounted to approximately $5,902,000. Pages 138 to 145 of this *Report* provide a summary of the grants made in the two-year period under review and identify the institutions to which grants were made. The more important of these grants and the purpose for which each was made are reviewed *in extenso* in this *Report* beginning at page 125.

THE BOARD OF TRUSTEES

The present Board of Trustees, the Foundation's governing body, numbers seventeen members. Their names and their professional or business connections are given on pages vi-vii of this *Report*.

On September 27, 1956 the Board's membership was increased by the election of Dr. Warren Weaver. For many years Dr. Weaver has served the Rockefeller Foundation in various executive capacities. He was the Director of that Foundation's Division of the Natural Sciences and of the similar Division of the General Education Board. In 1956

[1] See pp. 155 to 160.

Dr. Weaver became Vice President for the Natural and Medical Sciences for the Rockefeller Foundation. He joined the Board of Trustees of the Sloan-Kettering Institute for Cancer Research in the same year, having served as a consultant of the Institute since 1951. Subsequently, he became Chairman of the Institute's Committee on Scientific Policy. In 1956 Dr. Weaver participated in formulating the important report of the National Academy of Sciences on the biologic effects of radiation. Dr. Weaver is a mathematician of note and spent much of his earlier career as Professor and Chairman of the Department of Mathematics of the University of Wisconsin.

On April 17, 1956 Dr. Arnold J. Zurcher, Vice President and Executive Director of the Foundation since 1945, was elected to its Board of Trustees.

The increasing activity of the Foundation in recent years and the corresponding expansion of its Board's responsibilities have resulted in the establishment of various special standing committees. Four of

Elected Foundation Trustee September 1956

DR. WARREN WEAVER

these now exist. The Board's Executive Committee consists of Mr. Alfred P. Sloan, Jr. as Chairman and the following additional members: Mr. Raymond P. Sloan, Mr. Albert Bradley, Mr. John L. Pratt and Mr. Frank A. Howard. There is also a special Finance Committee which consists of Mr. Albert Bradley, as Chairman, and of the additional following members: Mr. Alfred P. Sloan, Jr., Mr. Laurance Rockefeller, Dr. James R. Killian, Jr. and Mr. Frank A. Howard. This Committee has immediate supervision of the Foundation's investments and other financial matters. The third committee is one set up in 1955 to pass upon all grants made under the Foundation's Program in Basic Science, discussed elsewhere in this *Report*.[1] Mr. Frank A. Howard is Chairman of this Committee. The other two members are Drs. Mervin J. Kelly and James R. Killian, Jr. The fourth committee deals with scholarships and fellowships. It consists of the following: Mr. Sloan, Mr. Bradley and Dr. Zurcher.

NEW DIRECTIONS IN FOUNDATION ACTIVITY

Under the various policies developed by the Trustees since the Foundation's organization, it continues to concentrate its support in certain rather well-defined areas and to limit its grants to such areas. These areas have been research and education in economics, business management, physical science, and certain aspects of medicine, particularly cancer and ophthalmology.

The financial problems of colleges and universities, especially those operating under private auspices, have also interested the Foundation's Trustees. In this area, projects which have enjoyed Foundation support over the past few years embrace efforts to assist the college and university world to increase financial support from private donors, especially from industry. Also included in this area is the Foundation's now quite sizable undergraduate college scholarship project.

In the Foundation's earlier years, the Trustees displayed considerable interest in promoting popular economic education and adult

[1] See p. 39.

educational programs in the economic field. However, as will be indicated on a subsequent page, projects in this field, which included educational radio and television projects and motion pictures, the latter largely of the animated-cartoon type, have been completed. At this writing, there are no plans to continue such projects although support is being continued for certain publication projects and for various public-service programs on radio and television which seek to promote safety on the highways.

In making commitments in the fields just outlined, the Trustees have continued the Foundation's traditional policy of concentrating funds available for grants upon a limited number of projects or institutions. Thus, as much as $1,200,000 goes annually to the support of various projects at the Massachusetts Institute of Technology and to the support of research activities administered directly or indirectly by the Sloan-Kettering Institute for Cancer Research. The total amount committed to these two institutions in the past two years was $1,864,000. Other recipients of relatively large grants in the past two years are New York University, Teleprograms Inc. and Dartmouth College.

In lieu of the concentration upon specific institutions, funds may be allocated to a variety of projects under the supervision of a special Foundation officer usually assisted by a body of formal or informal consultants and supervised by a special committee of the Foundation's Trustees. Three major projects of the Foundation are administered in that fashion, namely, its undergraduate scholarship program, which now accounts for an annual expenditure approximating a half million dollars; the Foundation's Basic Science Program which, during 1956, committed somewhat over $400,000; and its ophthalmological project. Beneficiaries under the first of these programs involve some thirteen colleges and universities. Under the second program, the colleges and universities which received grants during 1955-1956 numbered thirty-two.

Somewhere between five and ten per cent of the Foundation's total annual expenditure is devoted to what may be described as "small" grants; that is, grants of $10,000 or less. Such grants are made on the

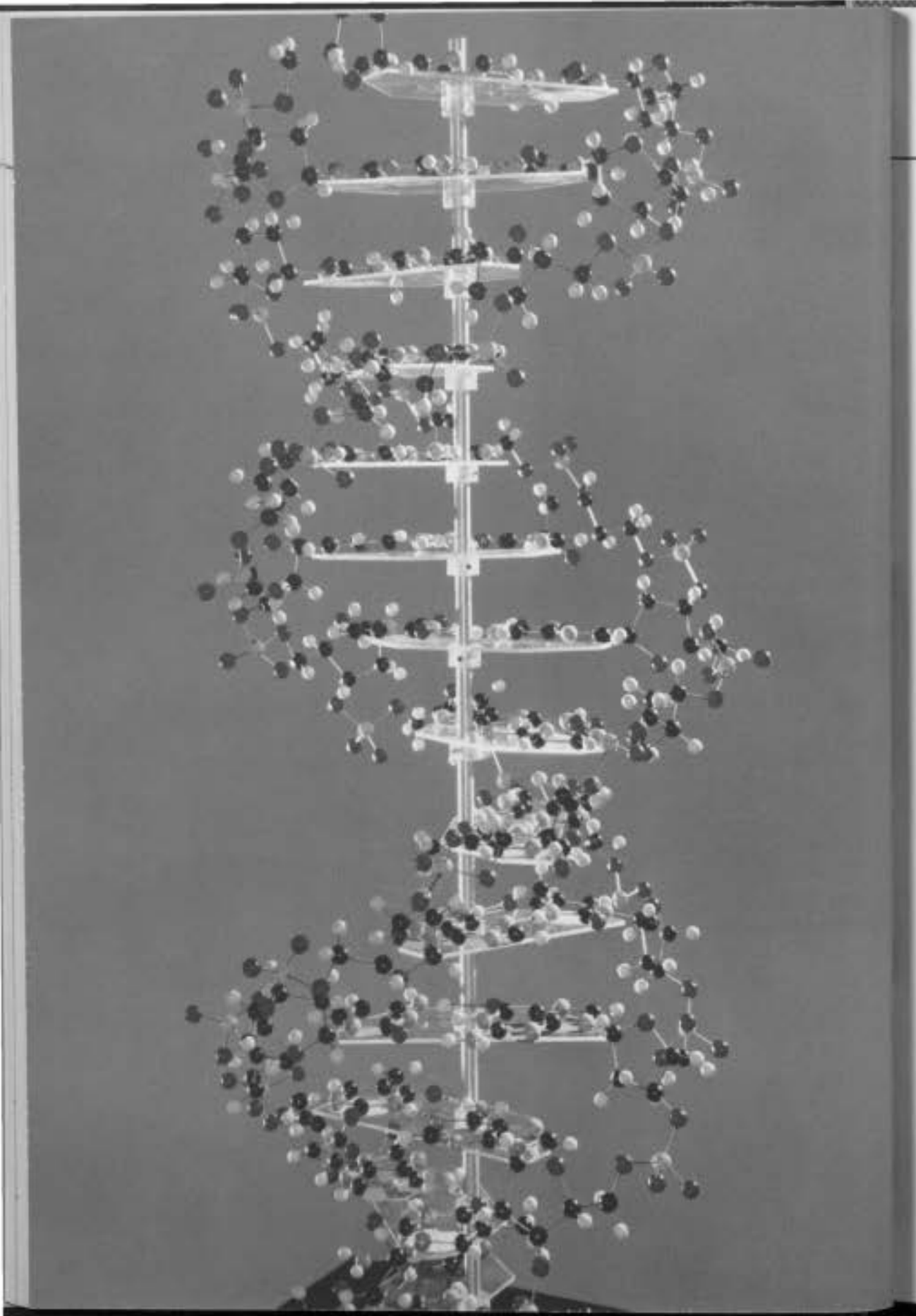
basis of an annual authorization of the Trustees. Their recipients comprehend a spectrum of activity much wider than that identified by the activities of the recipients of the larger grants authorized by the Trustees directly. Most of these special grants are identified in a section of this *Report*, which begins on page 125.

Studies currently being conducted by the Trustees, the staff and special bodies of consultants foreshadow possible expansion of the number of the Foundation's major areas of interest in the years immediately ahead. As this *Report*[1] will indicate, the Trustees made the first major grant in the field of mental health during 1956. This may be the first of several grants in this broad field. At any rate, a report will soon be made to the Trustees on the question as to whether or not it is desirable for the Foundation to proceed further in this area.

Another field in which the Foundation has provided support for the first time, on any significant scale, is that of hospital administration, a sizable grant having been made to Cornell University in 1955 for research and education in this area. A description of this project also appears on a subsequent page of this *Report*.[2] In this field, too, it is possible that expansion may occur. During December 1956, the Trustees decided to expand Foundation support for its existing undergraduate scholarship program. As will be noted later, steps were taken to increase the number of institutions benefiting under this project by providing scholarships at certain selected State universities and by increasing the number of scholarships available at various privately-supported colleges and universities.

[1]See p. 118.
[2]See p. 116.

Medical Research and Aids to Medical and Related Institutions



Sloan-Kettering Institute for Cancer Research and Related Activities

Among the few major projects to which the Foundation has been making sizable contributions in recent years, one of the largest is the Sloan-Kettering Institute for Cancer Research located at 410 East 68th Street in New York. Since the establishment of this unit in 1945, the Foundation has pledged a total of $9.73 million to the Institute and its affiliates. These funds have been applied both to construction and to general maintenance and to special research and related projects. In the two years being reviewed in this *Report*, the Foundation's commitments to this project totalled approximately $1,100,000. The average annual contribution of the Foundation to the Institute and its affiliates in the four-year period, 1953-56 has been $459,435. Since the annual budgetary outlay of the Institute during 1956 had reached a level of about $3.7 million, the contributions of the Sloan Foundation financed about 12.5 per cent of the Institute's total requirements. Hence about 87.5 per cent of the funds required to maintain the research operations at the Institute are contributed by other foundations, by various governmental agencies and by a very large number of corporations and individual donors.

According to one of the more recent "progress reports" of the Institute, the private agencies which have contributed generously to the support of its work include the American Cancer Society, the Black-Stevenson Fund, the Damon Runyon Memorial Fund for Cancer Research, the Max C. Fleischmann Foundation, the Charles F. Kettering Foundation, the Albert and Mary Lasker Foundation, the André and Bella Meyer Foundation, the Fannie E. Rippel Foundation and the

Part of hypothetical model of the DNA (deoxyribose nucleic acid) molecule—its relation to cell structure is important to chemotherapy research in cancer.

Stranahan Foundation. Public bodies which have contributed to the Institute's support include the U.S. Atomic Energy Commission and the United States Public Health Service.

During the biennium under review, the Institute observed the tenth anniversary of its founding. The event was marked by the delivery of scholarly addresses by various scientific leaders at a series of meetings held in October 1955. The principal speaker was Dr. Julian Huxley, for a time Director General of UNESCO, who is one of the world's leading biologists. Important addresses were also delivered by Dr. Warren Weaver, of the Rockefeller Foundation, who serves as Chairman of the Institute's Committee on Scientific Policy, and by Dr. C. P. Rhoads, the Institute's Director.

The ten-year interval marked by this anniversary witnessed a remarkable expansion in the effort of medical science to augment fundamental knowledge concerning the nature of cancer and related diseases. That effort has been reflected in the expansion of the activities of the Sloan-Kettering Institute which has rapidly established for itself a position as one of the world's leading institutions dedicated to increasing our knowledge of neoplastic diseases.

The Foundation's connection with the Institute arose in 1945 when the Foundation's Trustees authorized an initial grant of $4 million, subsequently expanded to $4.5 million, to house and equip the Institute. About half of this contribution was devoted to the construction of the building now occupied by the Institute, a thirteen-story structure which is one of the complex of buildings housing the various activities of the Memorial Center for Cancer and Allied Diseases in New York City. The remaining half of this original grant consisted of a ten-year pledge to make an annual contribution of $200,000 toward the operations of the Institute. Later this contribution was raised to $300,000 per annum and then to $400,000. At the end of 1956, this was the basic annual contribution of the Foundation to the Institute and it constituted an obligation of indefinite duration subject to cancellation on notice given five years in advance of actual cancellation. In addition,

however, as already suggested, during each year of the Institute's existence, the Foundation has made numerous additional contributions for special research projects and other activities.

The Institute grows out of a conception of a concerted scientific attack upon the problem of cancer which was formulated by the Foundation's President, Mr. Alfred P. Sloan, Jr., as the Second World War was coming to a close. With Mr. Frank A. Howard, then President of the Standard Oil Development Company, and now President of the Institute, Mr. C. F. Kettering, who, at the time, was Vice President of the General Motors Corporation and General Manager of its Research Laboratories Division, and Dr. Rhoads, the Institute's Director, Mr. Sloan conceived the idea of developing an approach to the cancer problem similar to the organized effort in industrial and university research laboratories which had become especially popular during the war period. The objective was to establish a purely research organization within the framework of one of the nation's leading centers for cancer treatment. Research and clinical activities would thus complement one another and advances in scientific knowledge, produced by research, would quickly affect existing cancer therapy. Basic to the conception was the bringing together of specialists of the highest professional caliber in the medical sciences and the basic sciences allied with them. Such a concept of organized scientific attack was based on the belief that scientific knowledge about cancer had attained a level which justified a vigorous, sustained and cooperative effort of the magnitude just described.

In commenting recently upon this concept, Dr. Rhoads indicates that, despite various difficulties, this has proven to be a satisfactory research attack upon the cancer problem. In its ten-year history, he says, the Institute has demonstrated "that it is feasible and useful, in medical research as well as in military and industrial research, to bring together representatives of many different intellectual disciplines under one roof in order to ease a grave burden on society." Such a "team" approach to research, moreover, has not, in Dr. Rhoads' judgment, adversely affected individual initiative in research activity nor prejudiced efforts to expand

basic scientific knowledge in those areas that are related to the cancer problem. On the contrary, he says, the research concept embodied in the Institute "has demonstrated that in the field of medicine, as in many other fields, investigators with the opportunity of working together can achieve better results as a group while remaining not less productive as individuals than they were when working in isolation."

Sloan-Kettering's governing body consists of a twenty-one member Board of Trustees, on which Mr. Alfred P. Sloan, Jr. serves as Chairman, Mr. Frank A. Howard, as already indicated, serving as President. Three members of the Institute's Board are nominated by this Foundation; four are nominated by the Board of Memorial Center for Cancer and Allied Diseases. The remaining members are nominated jointly by Memorial and the Foundation. The Institute has had its own Board of Trustees since March 9, 1950, when it was set up as a separate entity under the Membership Corporation Law of the State of New York. Prior to that time, the Institute had been an administrative division of Memorial Center. The association with Memorial nevertheless remains very close. This is apparent not only in Memorial's rôle in the choice of the Institute's Trustees but in many other ways. The Institute's headquarters are physically a part of the Center; and there is an intimate day-to-day integration of the Institute's research and teaching programs with the clinical activities and facilities of the Center.

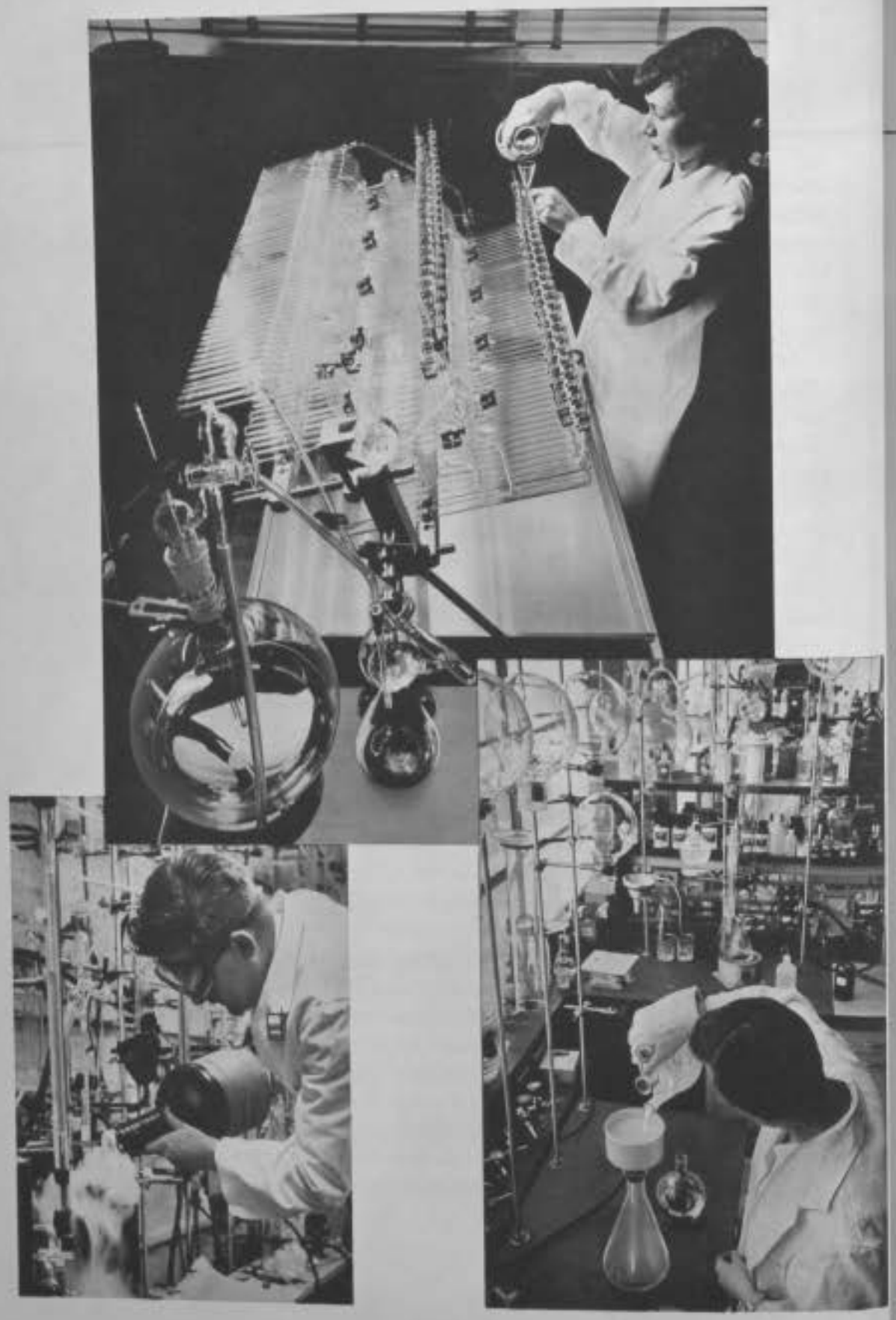
In addition to four principal staff members, headed by Dr. Rhoads, the Director, there are twelve additional "members" who, with Dr. Rhoads, provide direction for the Institute's research and teaching efforts. The additional professional staff numbers somewhat over two hundred physicians and scientists; and there is a supporting staff of about 380 persons. Six members of the Board of Trustees constitute the Institute's Committee on Scientific Policy, headed by Dr. Warren Weaver. The other five members of the Committee consist of Professor Roger Adams, of the University of Illinois; Dr. Joseph C. Hinsey, Director of the New York Hospital-Cornell Medical Center; Mr. Frank A. Howard; Mr. Charles F. Kettering; and Dean W. Albert Noyes, Jr., of the University of Rochester. A special group of nine scientific con-

sultants, each of whom is a physician or scientist of national reputation, advises the Institute's Scientific Committee and staff.

In recent years, the Institute has issued "progress reports" at intervals. Each of these gives details of some special research program or new field of investigation and comments upon the results achieved. These reports, when issued, are available directly from the Institute. The Institute also issues a biennial report. Besides a general description of the administration and financing of the Institute, these biennial reports review, in some detail, the entire scientific program of the Institute as that has developed at the time the report is issued.

In one of the latest of these reports, published during the summer of 1955, Dr. Rhoads outlined the general plan of attack on the basic problem to which the Institute is dedicated and summarized some of the achievements which might be credited to the project. He discussed in some detail the efforts being made to secure earlier diagnosis and more effective diagnostic tools and commented upon the improvements made in achieving physical removal of localized cancer by surgery and radiation. He also paid considerable attention to the work in cancer prevention which involves not only identification and removal or modification of external or environmental factors which may cause cancer but also the correction of abnormalities in body chemistry which may induce cancer.

In this report, Dr. Rhoads gave special attention to the progress which has been made toward finding a possible cure for disseminated cancer. In this area, he indicated that the Institute was continuing promising lines of research in its chemotherapy program. This appears to be based upon the assumption that cancer cells have certain unique chemical requirements which set them apart from normal ones and hence provide the possibility of the selective destruction of cancer cells even in cases of disseminated cancer if proper chemical compounds can be found which can control and destroy them. Investigation appears to confirm the assumption that cancer cells have unique chemical requirements; and, though much intensive study will be required before



scientists can be sure of their facts in this matter, "there seems now," according to Dr. Rhoads, "to be good reason to believe that we have a rational approach to cancer control, one which, if vigorously and intensively pursued, should lead us far toward our goal."

Another major field of investigation which, it is hoped, may lead to a possible cure of disseminated cancer is a study of possible modifications of body chemistry which would create conditions adverse to the growth and development of cancer cells. The Institute has undertaken a long-range program of study of the formation and change in the body of hormones and related substances which are the products of the glands of internal secretion. It is felt that these hormones are important in the growth and perhaps the cause of cancer.

The biennial report of the Institute which contains this description of progress lists in its appendix more than five hundred articles or abstracts, published in professional journals, these being the product of the staff of the Institute in the two-year period surveyed.

COLLABORATIVE PROGRAMS
SOUTHERN RESEARCH INSTITUTE

Much of the work at Sloan-Kettering is being carried on in collaboration with other research organizations and industry. In Dr. Rhoads' report, mention is made of cooperative arrangements with American Cyanamid Company dating back to the first days of the Institute. The Lederle Laboratories, a subsidiary of that Company, agreed to synthesize various compounds to be tested by the Institute in its chemotherapy program. Cooperative relationships were subsequently established with a large number of chemical and pharmaceutical research laboratories.

One of the more systematic collaborative arrangements is that between the Institute and the Southern Research Institute of Birmingham,

Some of the equipment in laboratories of Sloan-Kettering Institute.

Alabama. In the latter's Kettering-Meyer biological laboratory, various biochemical research activities are being carried forward in close cooperation with the broader program of Sloan-Kettering Institute. This Foundation made a four-year commitment to the Southern Research Institute in 1953 to assist in financing this research activity. The commitment, which expired at the end of 1956, amounted to $287,500. In the Fall of 1956, an additional commitment was authorized by the Trustees to provide further financing for the various projects at SRI. This new support from the Foundation amounts to $225,000 and is payable over a period running from January 1, 1957 to December 31, 1959. Most of the Foundation funds will be applied to the laboratory's primary project in cancer chemotherapy which seeks to find exploitable biochemical differences between normal and neoplastic cells. Some of the funds will be applied to certain preparatory laboratory work being conducted at the Southern Research Institute.

SLOAN-KETTERING DIVISION OF THE CORNELL UNIVERSITY MEDICAL COLLEGE

As in the case of all major research operations, the one at Sloan-Kettering has had to give consideration to the use of its resources for the development of professional personnel. This appears to be desirable in the general interest because of the wealth of professional competence, laboratory facilities and on-going experimental projects which are available for a teaching and developmental program for younger people. In a sense, too, it is an essential part of the research operations since it is constantly necessary for such operations to expand the pool of trained young men and women upon whom those very operations must rely for satisfactory professional staff at all levels.

Accordingly, in 1950, the Institute expanded its existing link with the Cornell University Medical College and established a special graduate teaching and research program. The new administrative unit is known as the Sloan-Kettering Division of the Cornell University Medical College. A faculty, representing the basic disciplines existing in the curriculum of a general medical college, has been provided for

this new Division by drawing upon the Institute's own specialists and the specialists available at Memorial Center and in Cornell University. Although the training objective is a broad one, its special focus is upon research, teaching and medical care relating to neoplastic diseases. In its recent announcements, the Division has offered programs of study and research leading to degrees in the fields of biochemistry, biology and growth, biophysics, pathology and preventive medicine. Students enrolled for the training program may work toward the Master of Science degree or the doctorate. Degrees are conferred by Cornell University. At least one half of the work in this program of the Sloan-Kettering Division must be done in residence.

The first students in the program were enrolled in July 1950. In the last two years, the Foundation has been supplying approximately $15,000 a year to be distributed as stipends for certain of the students thus enrolled. These have the status of predoctoral research Fellows. Some eight of these are presently pursuing work in the Division. The program in the Division also admits various visiting research Fellows from institutions in the United States and from abroad. Those from foreign institutions come to the Institute under its special Exchange Visitors Program.

Otological Research

INSTITUTE OF HUMAN COMMUNICATION
THE JOHNS HOPKINS HOSPITAL AND UNIVERSITY

DURING THE BIENNIUM under review, the Foundation assumed financial responsibility for projects which plan to investigate certain aspects of the problem of deafness in humans. The first of these projects embraces certain activities of the Institute of Human Communication of the Johns Hopkins University School of Medicine which is headed by Dr. John E. Bordley of the School's Department of Laryngology and Otology. The Institute attempts to coordinate the various resources of the Johns Hopkins University and of the Johns Hopkins Hospital to the end of using them more effectively in a broad program of research in human communication.

Over the past few years, investigators associated with this Institute, working under Dr. Bordley's direction, have concerned themselves with various problems in the field of hearing and have advanced their research on many of them to the point where important discoveries have been made. Among the investigations which have been conducted are the following: (1) an inquiry into the pathological process in the inner ear which is responsible for nerve-type deafness in man, this being the commonest type of deafness in persons of advanced years; (2) the development of techniques for measuring hearing in infants and young children; and (3) experimentation with advanced techniques in aural rehabilitation and speech training especially among very young children.

Operating microscope in Otological Research laboratories at New York University-Bellevue Medical Center.

The Foundation's commitment to this Institute at Johns Hopkins totals $60,000, payable at the rate of $20,000 per annum over a period extending to June 30, 1958. Proceeds of the grant are to be applied to the fundamental research activities of the Institute. Some of the funds may be applied to the training of a few carefully selected students at the doctoral level.

OTHER HEARING RESEARCH PROJECTS

A second project in this general area, now receiving support from the Trustees of the Foundation, is one located at the New York University-Bellevue Medical Center. This project, operating under the supervision of Dr. John F. Daly, head of the Center's Department of Otorhinolaryngology, will direct its primary attention to an investigation of the nature of the cochlea, or cavity of the middle ear, in which are contained the essential organs of hearing. Investigators will seek to determine whether a chemical process is involved in the transmission of nervous activity from the hair cells of the organ of Corti to the endings of the auditory nerve fibers. Dr. Daly and his associates hope that the investigation will lead to the establishment of definitive methods of dealing with incipient nerve deafness for which even rehabilitation techniques are not now entirely satisfactory.

Co-administrator of this research project at New York University and the principal investigator will be Dr. Joseph E. Hawkins, Jr. For several years, he has been engaged in studies of the function of the auditory area of the cerebral cortex. Additional support for Dr. Hawkins' work on this project at New York University will come from other sources. The proceeds of this Foundation's grant will be used to provide the necessary laboratory equipment and maintenance and to pay the salary of technical assistants.

The grant for this project at New York University is $82,000, payable during a period extending from September 1, 1956 to August 31, 1959.

Still a third project in this same field to which funds were committed early in 1955 is one located at the Manhattan Eye, Ear and Throat Hospital in New York. Directors of this project also plan to undertake a study of the inner ear. They propose, among other things, to investigate the toxic effects of foreign substances on nerve endings, the influence of noise upon the organ of Corti, and the possible influence of certain diseases upon the inner ear, particularly such diseases as rubella and mumps. The program is under the direction of Dr. Richard J. Bellucci and Dr. Dorothy Wolff.

In making grants to these three projects for fundamental research on hearing disabilities, the Trustees of the Foundation are entering a field to which, up to now, they have made no important commitments. In so doing they reflect their concern over the growing number of people in America who, to some degree, are affected by such disabilities. Currently that number is conservatively estimated to fall between two and three million persons; and it is expected to rise sharply as a larger proportion of the nation's population reaches the older age groups. Despite the magnitude of the problem, there has been relatively little fundamental research; nor are there adequate laboratory facilities or enough trained personnel to undertake research. It is the hope of the Trustees that one of the incidental benefits will be the creation of better research techniques and the recruitment and training of young scientists and medical men directly interested in promoting research on hearing disabilities.

Research on Diseases of the Eye

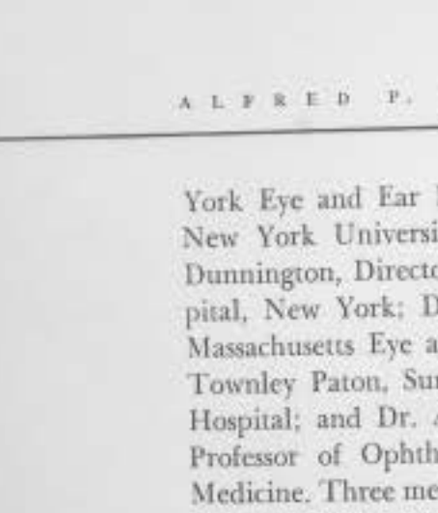
COUNCIL FOR RESEARCH IN GLAUCOMA AND ALLIED DISEASES

DURING THE BIENNIUM being reviewed in this *Report,* the Foundation has continued appropriations in support of research on the causes of diseases of the eye and on the treatment of these diseases. Primary attention has been given to the blinding diseases of glaucoma (hardening of the eyeball) and uveitis (inflammation of the inner blood vessel coat of the eye). Investigations undertaken with Foundation funds seek to broaden understanding of the nature of the formation of the intraocular fluids and of the factors which influence their production. Other projects seek to arrive at a more exact determination of the etiology of uveitis, especially of chronic uveitis. Still other projects seek to improve and validate tonographic methods and to test certain drugs which have recently become available and which offer possibilities of new and better medical treatment of glaucoma. Results already obtained from these studies are proving useful in the early diagnosis and in the evaluation of the therapy of the glaucomas.

To assist the Foundation in appraising research proposals in this general area, a special board of consultants has been established. This is known as the Council for Research in Glaucoma and Allied Diseases. Five of the nation's leading ophthalmologists now serve on this board. They are Dr. Conrad Berens, Consultant-Director of Research, New

Experimenting with tonography in Ophthamological Project at Washington University School of Medicine. St. Louis, Mo.

York Eye and Ear Infirmary, formerly Professor of Ophthalmology, New York University Post-Graduate Medical School; Dr. John H. Dunnington, Director, Institute of Ophthalmology, Presbyterian Hospital, New York; Dr. Edwin B. Dunphy, Chief of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, Massachusetts; Dr. R. Townley Paton, Surgeon Director, Manhattan Eye, Ear and Throat Hospital; and Dr. A. E. Maumenee, Ophthalmologist in Chief and Professor of Ophthalmology, Johns Hopkins University School of Medicine. Three members of the Sloan Foundation staff, Mr. Raymond P. Sloan, Vice President, Mr. James F. Kenney, Secretary and Treasurer, and Dr. Arnold J. Zurcher, Vice President and Executive Director of



DR. CONRAD BERENS

DR. JOHN H. DUNNINGTON

DR. RICHARD TOWNLEY PA

DR. A. EDWARD MAUMENEE

DR. EDWIN B. DUNPH

Ophthalmologists who are members of the Council for Research in Glaucoma and Allied Diseases.

the Foundation, are *ex officio* members of the Council. The offices of the Council are at 111 East 59th Street, New York 22, New York. The Council's Executive Secretary is Mrs. Mary M. Mollica. All applications for support from the Foundation for research projects on diseases of the eye are sent to the offices of the Council and not to the offices of the Foundation. If recommended by the Council, applications are subsequently transmitted to the Foundation for formal authorization by the Foundation's Board of Trustees.

Initial appropriations for research on diseases of the eye were made on January 9, 1953 and the first grants for this purpose were made during March 1953. For the period, 1955-56, appropriations for this field of activity approximated $160,000.

RESEARCH PROJECTS IN OPHTHALMOLOGY AUTHORIZED DURING THE BIENNIUM, 1955-1956

Some of the projects for which funds were voted during the period reviewed in this *Report* had received support previously. They have been continued for one or two additional years. Other projects authorized had not previously received funds from the Foundation. The institutions to which commitments were made during the biennium, the amounts involved, and the nature of the research project for which the funds were committed are described below:

Institute of Ophthalmology, Presbyterian Hospital, 635 West 165th Street, New York 32, N. Y.

For continued research on glaucoma, especially the study of various factors that influence the intraocular pressure of the human eye. The research encompasses investigation into the influence exerted by the central nervous system upon the intraocular pressure of both normal and glaucomatous eyes. In order to learn more about the controlling influences of the central nervous system on ocular tension, intravenous thiopental sodium (pentothal) anesthesia was

administered to glaucomatous patients and the resulting changes in aqueous humor dynamics were measured with tonography.

Investigations are being conducted under the direction of Dr. Andrew de Roetth, Jr. of the Department of Ophthalmology, College of Physicians and Surgeons, Columbia University.

Amount authorized in 1955, $15,000.

Massachusetts Eye and Ear Infirmary, 240 Charles Street, Boston, Mass.

(1) For further basic experimental studies directed toward establishing the nature of the resistance to outflow of fluid from the eye—of critical significance in glaucoma—and toward allied problems of regulating intraocular pressure; and (2) for studies aimed at establishing more precise calibration of the Schiotz electronic and mechanical tonometers which are employed for clinical measurements.

The principal recent development, apart from testing new drugs and analyzing intraocular pressure control by means of an electric analog computer, has been the establishment of facilities for experimental study of physiologic and pharmacologic factors which influence and control intraocular pressure. By means of these facilities, Dr. Charles Rife, a physician with advanced electrical engineering experience, and Dr. Maurice Langham, an expert in ophthalmic physiology, have produced results which, though still somewhat tentative, provide information of considerable interest to students and practitioners.

The research is being conducted by Dr. W. Morton Grant under the supervision of Dr. Edwin B. Dunphy, Chief of Ophthalmology, Massachusetts Eye and Ear Infirmary.

A grant of $10,462.50, approved for this project during 1955, supplements an earlier grant made in 1954.

University of California Medical Center, San Francisco 22, Cal.

For continuation of studies of fundamental biochemical, pathological and viral aspects of primary and secondary glaucoma. A project on experimental uveitis is also under way. Particular attention is being paid to the effect of virus infections on the iris angle as related to the production of secondary glaucoma.

The project is under the supervision of Dr. Michael J. Hogan, Director, Francis I. Proctor Foundation, University of California Medical Center.

Amount authorized during 1955, $13,000.

New York University Post-Graduate Medical School, New York 16, N. Y.

For the development of a method utilizing radio-activity as a tool in the investigation of the etiology and pathogenesis of uveitis.

The project is under the supervision of Dr. Goodwin M. Breinin, Director of Research, New York University Post-Graduate Medical School, and is being conducted by Dr. Antonio N. Fernando, of the Department of Ophthalmology, New York University Post-Graduate Medical School.

Amount authorized for this project during 1956, $17,151.

Medical College of Virginia, Richmond, Va.

To observe the comparative effects on the normal rabbit eye of retrociliary applications using cyclo-electrolysis and cyclodiathermy currents; to compare the effects of retrociliary treatments with effects of the applications made directly into the ciliary body on the normal animal eyes; to continue observations on studies of the congenital buphthalmic rabbit eye in the New Zealand white rabbit; and to continue work on the anatomy and histology of the normal rabbit eye.

Investigations are being conducted under the direction of Dr. L. Benjamin Sheppard, of the Medical College of Virginia.

Amount authorized for this project during 1955, $3,000.

National Academy of Sciences, Washington 25, D. C., proceeds of the grant to be used by the *American Registry of Pathology, Armed Forces Institute of Pathology.*

For further research studies on the etiology and pathology of granulomatous inflammations within the eye. Preliminary reports

of these studies were made at the Fifth Pan-American Congress of Ophthalmology in Santiago, Chile, in January 1956.

The project is being conducted by Dr. Lorenz E. Zimmerman, Chief, Section of Ophthalmic Pathology, Armed Forces Institute of Pathology, and is under the supervision of Dr. Hugh Grady, Scientific Director of the American Registry of Pathology.

Amount authorized for this project during 1955, $14,040.

Washington University School of Medicine, St. Louis, Mo.

For further investigations directed toward a better understanding of the formation of intraocular fluids and the diagnosis and therapy of glaucoma. Efforts have been made to improve tonography, to make it more precise, to establish its validity, and to make it more available. When combined with provocative tests, tonography provides the best method for establishing the very earliest diagnosis of glaucoma. In addition, a new type of glaucoma has been delineated and newer methods of therapy are being explored.

The research is being conducted under the direction of Dr. Bernard Becker, Professor of Ophthalmology, Washington University School of Medicine.

Amount authorized for this project during 1956, $14,273.

New York Eye and Ear Infirmary, Second Avenue and 13th Street, New York 3, N. Y.

For further etiologic and diagnostic studies of patients with uveitis and glaucoma, the purpose being to determine whether chronic, so-called focal, infections bear any relation to uveitis and to certain glaucoma cases secondary to uveitis. An attempt to develop a method for photographing the anterior chamber angle has been undertaken and proven successful.

The research is being conducted by Dr. William Reiner-Deutsch and Dr. Mortimer Cholst under the supervision of Dr. Hunter H. Romaine, Director for Ophthalmology, Department of Research,

of the New York Eye and Ear Infirmary.

Amount authorized for this project during 1955, $15,000.

ADDITIONAL OPHTHALMOLOGICAL PROJECTS SUPPORTED BY THE FOUNDATION

In addition to the grants described above, authorized under the program supervised by the Council for Research in Glaucoma and Allied Diseases, the Foundation made certain additional related grants. These are as follows:

Retina Foundation, 30 Chambers Street, Boston 14, Mass.

To assist in the purchase of a so-called "nuclear magnetic resonance spectrometer," equipment especially valuable in the study of nuclear magnetic resonance in substances of biologic importance. The device is part of the equipment to be used in the ophthalmological studies being conducted in the Retina Foundation laboratories, these being part of the Department of Ophthalmology of the Massachusetts Eye and Ear Infirmary.

Researches are being conducted under the direction of Dr. Edwin B. Dunphy, Chief of Ophthalmology of the Massachusetts Eye and Ear Infirmary and Professor of Ophthalmology at the Harvard Medical School. Dr. Dunphy is also a member of the Foundation's Council for Research in Glaucoma and Allied Diseases.

Amount of the Foundation's contribution, $7,500.

The Iran Foundation, Inc., Empire State Building, New York 1, N. Y.

To assist in the establishment of a Department of Ophthalmology for clinical work and research in trachoma at the Nemazee Medical Center in Shiraz, Iran.

Amount of the grant, $10,000.

Department of Ophthalmology, College of Physicians and Surgeons, Columbia University, 635 West 165th Street, New York 32, N. Y.

To finance further investigative work on retinoblastoma, a form of cancer of the eye occurring in children. Funds are being used primarily to support a study of the treatment of retinoblastoma by the application of triethylene melamine. The work is being done under the direction of Dr. Algernon B. Reese, Clinical Professor of Ophthalmology of the College of Physicians and Surgeons.

Amount of the grant, $10,000.

Research Programs in Pure Science

Research in Physical Science and Mathematics

In 1954 THE FOUNDATION announced a broad new program in the field of the basic sciences.[1] A detailed description of this program was contained in a pamphlet entitled "Fund for Basic Research in the Physical Sciences," published by the Foundation during 1955. As indicated in that pamphlet, although the program, as announced, was to be limited to the area of the physical sciences and was to embrace primarily physics, chemistry and mathematics, the intention was to avoid too rigid an interpretation of this limitation. A more liberal interpretation appeared necessary in view of the rapidly disappearing boundaries between the physical and the so-called "life sciences" such as biology, and the dependence of such sciences as meteorology, oceanography, and astronomy upon the subject matter of physics and the procedure of mathematics.

Initial grants under this new program, formally known as the Program in Basic Science, were announced on December 18, 1955. The awards totalled $235,000 and went to twenty-four scientists conducting research in some sixteen of the nation's colleges and universities. Further awards, totalling $411,569 were announced on August 20, 1956. These went to fifty-two scientists conducting research in thirty-two of the nation's major educational institutions. In some instances the awards in this second list constituted renewals of earlier awards. All awards were paid out of a special fund established by the Foundation to support research in basic science.

[1] See pp. 17 ff, *Report*, Alfred P. Sloan Foundation, 1953-54.

♦ *Dr. Richard T. Arnold, Administrator, and Program Committee of Foundation's Basic Science Project.*

This new scientific program of the Foundation developed out of a report made by a special *ad hoc* committee of scientists whose aid the Foundation enlisted in 1953. Professor Roger Adams, Head of the Department of Chemistry at the University of Illinois, served as Chairman of this committee. His colleagues were Dr. Mervin J. Kelly, President of the Bell Telephone Laboratories, Inc. and now a Trustee of the Foundation; Dr. Robert W. King, formerly Assistant to the President of Bell Telephone Laboratories, Inc.; Professor W. Albert Noyes, Jr., Dean of the College of Arts and Sciences at the University of Rochester; and Dr. Julius A. Stratton, Chancellor of the Massachusetts Institute of Technology. During its investigation of the state of science in America, this committee became especially concerned over the relatively small amounts of money being spent to advance pure science. The dearth of funds for basic scientific research had been the principal theme of a request for a survey of scientific research which President Eisenhower had addressed to the National Science Foundation in March 1954. In his request, the President had stated that more than 90 per cent of the vast Federal budget for research was being devoted to developmental work, that is, to the practical applications of basic knowledge, and that only a small fraction was being used to support basic research. Taking note of this situation, the committee suggested that, whatever policy the Foundation might adopt in this general area, it should be one which would counteract, in part, this trend away from pure science and toward developmental and technological applications.

The committee expressed the further opinion that such an aim could best be accomplished if the Foundation were to improve the opportunity for established young scientists to carry forward basic scientific researches in which they might be engaged. Far too often circumstances under which the scientist operates prevent him from advancing his research program. Teaching and administrative duties within the institution with which he may be connected, the inability of the institution to budget adequate funds for research, and the failure of outside sources to take an interest in his situation, have conspired, in the committee's opinion, to discourage many young scientists and have prevented them from developing their research

interests in maximum degree. This fact, the committee felt, was one of the principal limitations on the nation's effort to expand the frontier of basic knowledge in science; and it was a limitation which would eventually seriously prejudice the nation's welfare.

The committee accordingly made a specific recommendation to the Foundation that it use its funds to encourage young scientists to move forward with basic research activities that appealed to them: that it invest its funds in talent rather than in projects. It was in response to this specific recommendation that the Foundation inaugurated its Program in Basic Science in 1954 and began to make grants for that Program at the end of that year.

In order to carry out the recommendation of Professor Adams and his colleagues that available Foundation funds be used primarily to assist those younger scientists who have attained reputations as investigators in recent years, the Foundation has found it necessary to obtain exceptionally comprehensive information about the state of science and about scientists. It has also become essential that such information be carefully appraised. To provide professional assistance and guidance in obtaining such information, the Foundation, following certain administrative recommendations of Professor Adams' committee, set up a permanent advisory committee of scientists, to be known as the Program Committee. Besides evaluating the past performance of scholars nominated for awards, the Program Committee serves as a liaison agency with the university and scientific world and advises on the general evolution of the project. The Program Committee's Chairman is Professor Arthur C. Cope, Head of the Department of Chemistry at the Massachusetts Institute of Technology. His four colleagues are Dr. James Brown Fisk, Executive Vice President and Vice President in Charge of Research, Bell Telephone Laboratories, Inc.; Professor Kenneth S. Pitzer, Dean of the College of Chemistry, University of California at Berkeley; Professor Frederick Seitz, Head of the Department of Physics at the University of Illinois; and Professor Albert W. Tucker, Head of the Department of Mathematics at Princeton University.

To administer the new program, the Foundation appointed Dr. Richard T. Arnold to the staff of the Foundation. Dr. Arnold bears the title of "Administrator of the Basic Science Program." He was formerly Professor and Head of the Department of Chemistry at the University of Minnesota.

In the plan of operations which has been developed for the Program in Basic Science, most of the nominations of prospective recipients of awards are made by senior staff members of scientific departments in universities and research institutions throughout the United States and Canada. However, direct applications to the Foundation for consideration under this Program are not discouraged. In considering requests for aid, those in charge of the Program seek to ascertain the nature of the research upon which the candidate is engaged; but the prime factor in a decision to aid him is not the nature or purpose of his particular research activity but his general reputation for effective research among scholarly colleagues. This is perhaps the most unique feature of this Foundation program, namely, its emphasis upon subsidizing and developing talent as opposed to the more conventional objective of supporting a program of research along specific lines. Grants under the Program are made to the universities or other institutions with which the recipients are officially connected; and the institution acts as the administrator. Normally the grant provides for necessary apparatus and for technical assistance. It may also provide funds for travel and other incidental expenses. Care is taken to make certain that every institution which serves as an administrator of an award under this Program is reimbursed not only for out-of-pocket expenses incurred by the research activity but for overhead chargeable to the activity.

Initial awards made under this Program were limited to a single year. On recommendation of the Program Committee, it was agreed during 1956 that awards could be made for a maximum of three years when a commitment of that length appeared desirable; and, of course, commitments may be renewed on recommendation of the Program Administrator and the Program Committee. All commitments under

this Program must secure the approval of a three-man committee of the Foundation's Board of Trustees, of which Mr. Frank A. Howard is chairman.

In October 1956, the Foundation's Trustees approved a gradual expansion of the cash outlay for this Program over the next three years. It is anticipated that expenditures for the academic year 1957-58 will approximate $600,000; that for the year 1958-59, they will reach approximately $800,000. Thereafter, it is anticipated that the Foundation will make a cash outlay each year of approximately a million dollars for this Basic Science Program.

The list of awards made since the inception of this Program, and the scientists whose work has been aided by them are listed on appropriate pages of this *Report*. It will be noted that awards have been made to scientists in both privately- and publicly-supported universities and technological institutions. The institutions whose scientists have been selected for awards are located in every major region of the United States. A few awards have also been made to scientists connected with Canadian and Mexican universities.

GRANTS UNDER THE FOUNDATION'S BASIC SCIENCE PROGRAM AND SCIENTISTS ASSISTED BY THESE GRANTS, 1955-1956

Brown University, Providence, R. I.
Gordon F. Newell, *Associate Professor of Mathematics*

California Institute of Technology, Pasadena, Calif.
Richard Feynman, *Professor of Physics;* Frank Press, *Professor of Geophysics;* John R. Pellam, *Professor of Physics*

University of California, Berkeley, Calif.
Arthur F. Kip, *Professor of Physics;* Charles Kittel, *Professor of Physics;* William D. Gwinn, *Professor of Chemistry;* Walter D. Knight, *Associate Professor of Physics*

Carnegie Institute of Technology, Pittsburgh, Pa.
Richard E. Cutkosky, *Assistant Professor of Physics;* Robert G. Parr, *Associate Professor of Chemistry*

University of Chicago, Chicago, Ill.
Frederick Reif, *Assistant Professor of Physics*

Columbia University, New York, N. Y.
Richard T. Arnold, *Research Associate in Chemistry;* Benjamin P. Dailey, *Associate Professor of Chemistry*

Cornell University, Ithaca, N. Y.
Donald D. Phillips, *Assistant Professor of Chemistry;* Donald F. Holcomb, *Assistant Professor of Physics*

Duke University, Durham, N. C.
William R. Krigbaum, *Assistant Professor of Chemistry*

Georgia Institute of Technology, Atlanta, Ga.
William H. Eberhardt, *Professor of Chemistry;* Jack S. Hine, *Professor of Chemistry*

Harvard University, Cambridge, Mass.
Karl Strauch, *Assistant Professor of Physics*

University of Illinois, Urbana, Ill.
Charles P. Slichter, *Professor of Physics;* E. J. Corey, *Professor of Chemistry;* Alex Heller, *Associate Professor of Mathematics*

University of Indiana, Bloomington, Ind.
Harrison Shull, *Associate Professor of Chemistry*

The Institute for Advanced Study, Princeton, N. J.
John F. Nash, Jr., *Assistant Professor of Mathematics at the Massachusetts Institute of Technology;* Raoul Bott, *Associate Professor of Mathematics at the University of Michigan;* Melvin Henriksen, *Assistant Professor of Mathematics at Purdue University*

University of Kansas, Lawrence, Kan.
Russell N. Bradt, *Assistant Professor of Mathematics*

Massachusetts Institute of Technology, Cambridge, Mass.
Carl W. Garland, *Assistant Professor of Chemistry;* Herbert O. House, *Assistant Professor of Chemistry*

University of Michigan, Ann Arbor, Mich.
Richard B. Bernstein, *Associate Professor of Chemistry*

University of Minnesota, Minneapolis, Minn.
Stuart W. Fenton, *Assistant Professor of Chemistry;* Hidehiko Yamabe, *Assistant Professor of Mathematics*

University of Missouri, Columbia, Mo.
Nelson M. Duller, *Assistant Professor of Physics*

Northwestern University, Evanston, Ill.
Gordon M. Barrow, *Assistant Professor of Chemistry;* Howard E. Zimmerman, *Assistant Professor of Chemistry*

Oregon State College, Corvallis, Ore.
J. C. Decius, *Professor of Chemistry;* Kenneth W. Hedberg, *Assistant Professor of Chemistry*

Pennsylvania State University, University Park, Pa.
Robert W. Taft, Jr., *Associate Professor of Chemistry*

Polytechnic Institute of Brooklyn, Brooklyn, N. Y.
Frederick M. Beringer, *Associate Professor of Chemistry*

Princeton University, Princeton, N. J.
Thomas R. Carver, *Assistant Professor of Physics;* John W. Milnor, *Assistant Professor of Mathematics;* José C. Adem, *Professor of Mathematics at the National University of Mexico*

Queen's University, Kingston, Ontario, Canada
Paul Dedecker, *Professor of Mathematics at the University of Liège;* George F. D. Duff, *Assistant Professor of Mathematics at the University of Toronto;* Basil A. Rattray, *Assistant Professor of Mathematics at McGill University*

University of Rochester, Rochester, N. Y.
Virgil C. Boekelheide, *Associate Professor of Chemistry;* Walter Rudin, *Associate Professor of Mathematics;* Malcolm P. Savedoff, *Assistant Professor of Physics*

Rutgers University, New Brunswick, N. J.
Donald B. Denney, *Assistant Professor of Chemistry*

Stanford University, Stanford, Calif.
Walter E. Meyerhof, *Associate Professor of Physics;* Harold S. Johnston, *Associate Professor of Chemistry*

University of Toronto, Toronto, Ontario, Canada
Richard D. Russell, *Assistant Professor of Geophysics*

University of Virginia, Charlottesville, Va.
Stephan Berko, *Assistant Professor of Physics*

Washington University, St. Louis, Mo.
Richard E. Norberg, *Associate Professor of Physics*

University of Washington, Seattle, Wash.
Victor L. Klee, *Associate Professor of Mathematics*

University of Wisconsin, Madison, Wis.
Richard N. Dexter, *Assistant Professor of Physics;* John L. Margrave, *Assistant Professor of Chemistry*

ADDITIONAL RESEARCH PROJECTS

A few grants for scientific projects were made during the biennium which do not fall within the jurisdiction of the Program in Basic Science. The first of these was a grant of $50,000 made to the Institute of Atmospheric Physics at the University of Arizona. This was a termination grant and supplemented an earlier commitment of $150,000 made by the Foundation to the same grantee in 1953.

The Institute is engaged in basic research in meteorology and began its program in 1954. One of its first undertakings was a "cloud census" of the Southwest Mountain area of the United States. In its various research projects, the Institute plans to investigate the behavior and structure of clouds and natural and artificial nucleation of clouds, the latter being the phenomenon which largely controls precipitation. Associate directors of the Institute are Dr. J. E. McDonald and Dr. A. Richard Kassander. A more extended description of the organization and proposed activity of the Institute of Atmospheric Physics appeared in the *Report* of this Foundation for 1953-54.[1]

[1] See pp. 35 to 38.

A related activity to which the Foundation has occasionally made small contributions is that of the High Altitude Observatory of the University of Colorado located at Boulder, Colorado. Contributions to this project during the biennium totalled $5,000, these supplementing grants of similar magnitude in previous years. This institution, whose main observing station is at Climax, Colorado, operates under the direction of Dr. Walter Orr Roberts. Since its organization, it has been especially concerned with the study of solar behavior and the effect of various solar phenomena upon terrestrial climatic conditions.

Adult Education and Related Programs

Radio and Television Awards for Highway Safety

AUTOMOTIVE SAFETY FOUNDATION
NATIONAL SAFETY COUNCIL

A FOUNDATION-SUPPORTED PROJECT which has gained considerable public acceptance is the Alfred P. Sloan Award for Highway Safety. This seeks to encourage broadcasting, advertising and allied industries to use the media of radio and television to improve safety conditions on the nation's highways. Initiated in 1948, the project is administered by the Automotive Safety Foundation, Washington, D. C., and the National Safety Council, which has its headquarters in Chicago, Illinois. Safety programs, developed by networks and individual stations or by advertisers or sponsors, are brought to the attention of juries of experts who, in accordance with various criteria of excellence and effectiveness, annually select recipients for a citation and the award of a bronze plaque. The citations are read and the plaques awarded at ceremonies held during the Spring of each year in New York City.

Under the amended regulations established for this project by the administering organizations, one award may be made for sustaining programs and one for commercial programs in each of the following categories: (1) local television stations; (2) television networks; (3) radio stations of 1,000 watts or less; (4) other radio stations; (5) regional radio networks; and (6) national radio networks. In addition, an award is usually made for safety programs of exceptional quality produced and broadcast from an educational radio station and for programs of equal merit broadcast from an educational television station.

Mr. Alfred P. Sloan, Jr. and guests at seventh annual award of safety plaques at Waldorf-Astoria, May 17, 1955.

According to the procedure observed over the past eight years, stations, networks and sponsors may be considered for an award if an appropriate nomination is sent to the National Safety Council and the nominee satisfies certain of the Council's standard requirements. A nomination must be accompanied by supporting material such as kinescopes, sample transcriptions, and scripts of individual programs or announcements. Such material must be supplemented by descriptions of any public-service activities to promote the safety of pedestrians and motorists on the highways which the nominee has supported during the preceding twelve months. Closing date for nominations usually is in February or March of the year in which an award is to be made.

Nominations in all categories for one of the Sloan Safety Awards have increased appreciably, and it is estimated that in each of the last two years some two hundred entries have been submitted by stations, networks and sponsors. Spokesmen of the Automotive Safety Foundation and of the National Safety Council have expressed gratification over the interest exhibited by the communications industry in seeking to qualify for these awards and over the sense of responsibility to the community and the public welfare reflected by this interest.

Awards during the most recent two-year period were conferred upon some twenty stations, networks or sponsors of radio and television safety programs. Four of the awards went to the following individual radio stations for sustaining programs: WOWL, Florence, Alabama; KOY, Phoenix, Arizona; WTTM, Trenton, New Jersey; and KONO, San Antonio, Texas. Individual television stations which were honored included WCPO-TV, Cincinnati, Ohio; and WTVJ, Miami, Florida. The radio networks of both the National Broadcasting Company and the Columbia Broadcasting System received awards and so did two non-commercial educational stations, namely, WUOT of Knoxville, Tennessee, which is the station of the University of Tennessee; and KDPS, a non-commercial educational station located in Des Moines, Iowa. During 1955, a special citation was also given to the Rural Radio Network of Ithaca, New York.

Awards to sponsors of radio safety programs in this same two-year period included the following: Twin City Federal Savings and Loan Association for a program over Station KSTP, Minneapolis, Minnesota; the DeSoto-Plymouth Dealers of America for a network program on NBC; Chevrolet Motor Division of General Motors Corporation for programs on the NBC and CBS networks; Standard Oil Company of Indiana for a program involving thirty-three midwestern stations; Sears, Roebuck and Company for a local program on Station KBIS, Bakersfield, California; and Auto Specialties Manufacturing Company of St. Joseph, Michigan, for several local programs. In the television medium, awards to sponsors went to the following: Esso Standard Oil Company for a program over a chain of eighteen stations; Plymouth Dealers of Greater Detroit for thirty-six half-hour programs over WJBK, Detroit; R. J. Reynolds Tobacco Company for its safety efforts over national networks on the National Broadcasting Company and the Columbia Broadcasting System; and Schafer's Bakeries, Detroit, Michigan, for a safety program on the Detroit station, WJBK-TV.

For the group given recognition in 1956, the bronze plaques presented to the Sloan Award winners were the first of those newly designed for this project by the eminent sculptor, Anthony de Francisci. Mr. de Francisci designed the American veterans' discharge insigne after World War II and his work appears in the Metropolitan Museum of Art in New York and various other art museums.

Much of the success of this safety awards project is to be attributed to the imaginative direction and fine liaison efforts of the organizations responsible for administering it, namely, the Automotive Safety Foundation and the National Safety Council. A great deal of that success is also attributable to the devoted service of the individuals on the juries who judge the annual competitions. During 1955 and 1956, the awards juries for this safety project consisted of the following: Ralph W. Hardy, Vice President, National Association of Radio and Television Broadcasters; Charles D. Curtiss, Commissioner of the United States Bureau of Public Roads; Kenneth G. Bartlett, Vice President and Dean of the School of Public Relations, Syracuse University; Mrs. Stephen J.

Nicholas, Executive Director, General Federation of Women's Clubs; George Jennings, Director, Division of Radio and Television, Chicago Board of Education; Harold I. Goss, President, American Association of Motor Vehicle Administrators; E. H. Holmes, Deputy Commissioner of the United States Bureau of Public Roads; Charles F. McCahill, Chairman, Media Group, President's Committee for Traffic Safety; and Frederick H. Garrigus, Manager of Organizational Services of the National Association of Radio and Television Broadcasters. Chairman of the awards jury in 1955 was George C. Stewart, Executive Vice President of the National Safety Council. Ned H. Dearborn, President of the National Safety Council, served as Chairman of the jury in 1956.

In encouraging users of the radio-television medium to increase the number of safety programs and safety announcements and improve their quality, administrators of this project believe it is making a real contribution toward revising downward the now constantly mounting toll of casualties on the highways. At the present rate of increase it is estimated that traffic fatalities will soon be costing the nation more than 40,000 lives annually and more than a million injuries. The annual property loss involved will come close to $4.5 billion.

Mr. Harold Fellows, President of the National Association of Radio and Television Broadcasters, made the principal address at the dinner for the recipients of the Sloan Safety Awards, held at the Waldorf-Astoria on May 15, 1956. He commented at length upon the growing effectiveness of the public-service safety efforts of the broadcasting and telecasting industry and of the value of this particular project in assisting the industry to reduce the highway toll of death and destruction. He stressed especially the possibility of the communications industry exerting a restraining influence upon the greatest driver-risk group which he identified as young men between the ages of 18 and 24. "Television," he said, "can do a fine job in reaching this group with a dramatic and appealing campaign on highway safety." He added that it was "possible

Mr. Harold Fellows, President of NARTB, and recipients of Sloan Safety Awards at Waldorf-Astoria, May 15, 1956.

that radio can do an even better job—because of its mobility and because of its acknowledged appeal to young people of this age." The effectiveness of that appeal, he added, had been demonstrated by the Sloan Award winners and by hundreds of other broadcasters throughout the United States. On behalf of the nation's broadcasters, he gave renewed assurance of an unremitting effort, along with other communications media in the nation, "to beat down the most tragic statistic in America today—a statistic of death and destruction that dishonors our national character."

Speaking for the entire broadcasting industry at this same event in 1956, Mr. Edward Stanley, in charge of Public Service Programs for the National Broadcasting Company, proposed a tribute to Mr. Alfred P. Sloan, Jr. for his leadership in the cause of highway safety. The tribute, in the form of a resolution which Mr. Stanley offered from the floor, expressed appreciation "for all of the encouragements the industry has had from him in support of highway safety." Mr. Stanley's resolution was passed by acclamation.

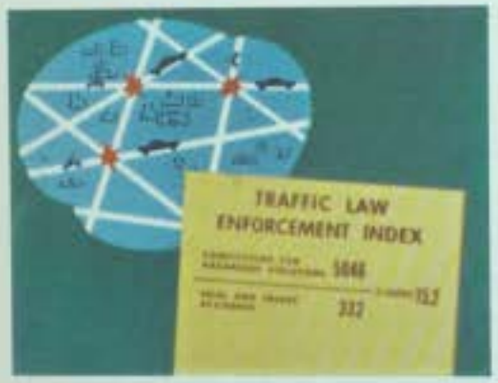
Appropriations for the Sloan Safety Awards project during 1955-1956 amounted to $29,000.

Motion Pictures to Promote Highway Safety

AUTOMOTIVE SAFETY FOUNDATION
PRESIDENT'S COMMITTEE FOR TRAFFIC SAFETY

A MAJOR ACHIEVEMENT of the President's Highway Safety Conference of 1946 was the formation of a comprehensive highway accident prevention program which found fairly general support among safety authorities. This program was based on tested safety procedures and it subsequently became a guide for public authorities all over the nation in their efforts to take practical steps in the states and local communities to develop effective accident prevention programs on the highways. The program calls, for instance, for more effective law enforcement and motor vehicle administration, for improved traffic safety regulations, and for increasing public understanding of the proportions of the highway safety problem. The general purpose of the recommended techniques is to make more effective the planning and administration of all phases of a comprehensive, many-faceted effort to promote the safe and efficient use of the nation's highways.

Early in 1955, at the request of the President's Committee for Traffic Safety, the Automotive Safety Foundation assumed the responsibility of securing funds for, and producing, a series of films to explain and occasionally to dramatize the basic elements of the program. The film project grew out of the suggestion of a group of experts attached to the President's Committee. This body, headed by William R. Hearst, Jr., had been examining into ways and means to encourage States and cities to apply more fully the broad program for promoting safety which had been developed by the Highway Safety Conference in 1946. To make



Illustrations of material appearing in the seven films produced by the Automotive Safety Foundation and the President's Committee for Traffic Safety. Production of these pictures was financed in part with a grant by the Alfred P. Sloan Foundation, Inc.

such an effort succeed, the members of the group felt they must communicate as directly and efficiently as possible with responsible local officials and the general public; and to this end they had urged that steps be taken to translate the principal ideas of the program into the more graphic, and hence more persuasive, medium of films. The expert group had recommended production of a series of short animated and live-action films in color, each devoted to a specific phase of the broad program. If funds could be secured, the Automotive Safety Foundation was authorized to supervise production and, in conjunction with the President's Committee, distribute prints of these films at cost to local organizations throughout the country interested in the highway safety movement. The group of experts who had recommended this film project to the President's Committee consisted of the following: Richard O. Bennett of the National Association of Automotive Mutual Insurance Companies; Thomas N. Boate of the Association of Casualty and Surety Companies; Burton W. Marsh of the American Automobile Association; and Arnold H. Vey of the National Safety Council. Admiral H. B. Miller and J. W. Bethea of the President's Committee were *ex officio* members; and the group's Chairman was Norman Damon of the Automotive Safety Foundation.

Because of its long-time interest in efforts to promote highway safety, the Sloan Foundation was subsequently approached with a request to assist this particular project; and on January 5, 1956, its Trustees voted a grant of $40,000. This sum was subsequently matched by the Automotive Safety Foundation, and during the next six months that organization produced seven films, each approximately six minutes in length, and each devoted to a specific phase of the comprehensive safety program evolved from the original recommendations of the President's Committee. The films have the following titles: "Motor Vehicle Administration"; "Traffic Court U.S.A."; "Traffic Police"; "Uniform Laws"; "Traffic Safety Education"; "Accident Records"; and "Engineering for Traffic Safety." The films are in color and consist partly of animation and partly of live-action scenes. Excerpts from sequences of these various films, reproduced in color, appear on pages 58-59 of this *Report*. In addition to the specialized color films, a fifteen-minute black-

and-white documentary entitled "Alias the Killer" was also created. This is to serve as an introduction to all of the other films and outline broadly, and in popular fashion, the scope of the problem and the imperative need for action. Directly responsible for the production of the films were Mr. J. O. Mattson, President of the Automotive Safety Foundation, and Mr. John W. Gibbons, the organization's Director of Public Relations.

Some seventy national organizations have hitherto cooperated with the President's Committee for Traffic Safety in effectuating its general program; and they have repeatedly expressed interest in motion pictures that could be used in their respective safety educational programs. It is anticipated that these organizations will render effective assistance in securing widespread distribution of the prints made from these various films of the President's Committee; indeed, officials of the Automotive Safety Foundation anticipate that several thousand prints will find use among various constituencies in the nation interested in one or another phase of this broad problem.

During 1956, the President's Committee held several major regional meetings for the promotion of its general safety program with the objective of stimulating the organization of appropriate citizens' groups in states and communities. These regional meetings, held in Chicago, Atlantic City, Miami Beach and San Francisco, previewed this set of eight films and developed recommendations for their distribution and further exploitation on a local basis.

The Automotive Safety Foundation, the Alfred P. Sloan Foundation's grantee in this film project, was established in June 1937. It originated in a movement begun in 1936 to mobilize the resources of industry for a concerted effort to reduce the accident and death toll on America's highways. As certain preceding pages of this *Report*[1] have indicated, the Automotive Safety Foundation and the National Safety Council serve as administrators of the Alfred P. Sloan Awards for Highway Safety, made annually to the communications industry.

[1] See pp. 51 to 56.

Periodical Devoted to Economics and Public Affairs

CHALLENGE MAGAZINE
NEW YORK UNIVERSITY

IN THE AREA OF POPULAR adult education, long a field of interest to this Foundation, a major project in recent years has been *Challenge Magazine*, published by the Institute of Economic Affairs at New York University. This project was originated with the support of the Foundation in 1950. It was intended at that time to limit published material to economic subjects; subsequently, however, the scope of the magazine's subject-matter was broadened to include articles relating to science, technology, education and public affairs generally, this broadening of the scope of its interest being reflected in the change from its original title *Popular Economics* to its present one.

The magazine has a "pocket-size" format and is normally about eighty pages in length. It publishes ten issues per year. Recent issues have included certain special features, particularly transcripts of interviews with leading figures in Government, industry and education, and a special section entitled "Economics in Action." The latter provides brief analytical summaries—including a paragraph or two of comment—of major current domestic political issues, diplomatic activities and economic trends.

Members of Staff and Editorial Offices of Challenge Magazine, New York University.

During 1956, selected feature articles in *Challenge Magazine* examined the following topics: reformation of the tax system; the probable effects of automation on work habits; expansion of productivity in industry during the past half century; the future of small business; factors limiting the current civilian exploitation of atomic energy; the debate over public power; and the vocational and professional rehabilitation of the handicapped. Other feature articles dealt with economic and social issues in certain foreign states. Examples were such topics as the evolution of an industrial management élite in Soviet Russia; the nature of Soviet industrial growth during the past twenty-five years; the concept of the guaranteed annual wage in countries outside the United States; Japan's economic future; economic aid for Asiatic nations; and recent economic changes in France. Contributors included specialists drawn from college and university faculties; professional writers on economic subjects and public affairs; and occasional specialists drawn from industry, labor and Government.

One of the continuing features in the magazine over the past two or three years has been a series of articles entitled "Man and the Economy." These summarize the ideas of the major economists and of various economic schools. By the end of November 1956, seventeen of these articles had been written and published in various issues of the magazine. The last one in this group dealt with the American "Institutional School." The purpose of the articles is to formulate the more unique concepts of a particular economist or school of economics and communicate these to the non-specialist. In general, the writer of the articles has avoided too great a degree of simplification and the consequent distortion of the substance of the ideas developed. Eventually these articles will be reproduced and republished in a book bearing the same title as the magazine series, namely, "Man and the Economy."

Although subsidized by grants from the Foundation, *Challenge Magazine* is distributed only to *bona fide* subscribers. The individual subscription rate is currently two dollars per year. Proceeds from subscriptions supplement the Foundation's grants and the University applies such proceeds to costs of production and distribution. According

to the latest report of the Executive Director and Editor, the magazine's current subscription list totals about 17,000 names. Besides individuals, who constitute more than half of the total, subscribers include schools and colleges, industrial concerns, libraries and various types of public-service and professional organizations.

Many of the articles and other contributions appearing in the magazine are reprinted in other publications and thus acquire an extensive secondary circulation. In a recent twelve-month period, it is estimated that reprints and condensations of articles republished in this fashion in magazines, newspapers and industrial house organs and in United States Government publications accounted for a supplementary circulation in the neighborhood of twenty million. Among the periodicals reprinting entire articles was the *Management Review*, the organ of the American Management Association. Eleven articles were reprinted in this periodical and distributed to the membership of the Association. Another organization which has reproduced entire articles from *Challenge Magazine* for supplementary distribution is the United States Information Agency. In a recent twelve-month period, this body reproduced at least nine articles and distributed them in some eighty countries where it maintains information centers. The Agency estimates that its circulation of a single reprint approximates a million-and-a-half copies. Supplementary distribution of this type is encouraged by the University and the editors of the publication and it represents a major part of the total impact which the magazine is having upon the reading public.

Foundation grants for *Challenge Magazine* have averaged $100,000 per annum during the past three years. For the past five years, the Executive Director and Editor of the project has been Mr. Haig Babian. Supervision of this publication on behalf of New York University is maintained by a special committee, headed by Professor John E. Fagg and including Dr. Harold O. Voorhis, the University's Vice President and Secretary. Dr. Harold F. Clark, Professor of Economics at Teachers College, Columbia University, serves as a consultant. Editorial offices

for *Challenge Magazine* are located in University quarters at 475 Fifth Avenue, New York 17.

The extensive list of individual subscriptions which this magazine has built up over the past three or four years and the very considerable demand for the articles and features which have found a place on its pages indicate that this publication renders a unique service for a considerable constituency in the United States. It is especially in demand because of its demonstrated success in providing readable, uncomplicated and objective analyses of many of the major current issues in the field of economics and related disciplines. *Challenge Magazine* was recently cited by the Freedoms Foundation of Valley Forge, Pennsylvania, with an award "for outstanding achievement in bringing about a better understanding of the American way of life." The Associated Industries of Missouri has also formally commended the magazine "for fostering a better understanding of the economics of private capitalism and the part it plays in American freedom."

Educational Projects in Television and Radio

TELEPROGRAMS INC.—NATIONAL BROADCASTING COMPANY

THROUGHOUT THE biennium under review, the Foundation has continued its long-time interest in the use of radio and television as educational media, an interest which was first manifested as early as 1938. When it originally undertook support for this type of project, grants were made to several educational radio programs, the best known having been the *Chicago Round Table*. More recently, however, such funds as the Trustees have appropriated for this purpose have gone almost wholly to a single producing agency, a public-service corporation called Teleprograms Inc. Most of the funds thus allocated, moreover, have been applied to the cost of producing a weekly network educational television program called *American Inventory*.

Under the terms of a contract between Teleprograms Inc. and the National Broadcasting Company, the former bore the major share of the production costs of *American Inventory*. On the average, about $11,000 was budgeted for an individual telecast of this program. This sum defrayed the cost of script, acting talent, incidental films, art work, staging services and other items. The cost of overhead and administrative and operational expenses, chargeable to this project, were also borne by Teleprograms. The National Broadcasting Company's principal contribution was that of air time. It furnished facilities for telecasting over its New York station, WNBC, and four other network-owned stations in Washington, Cleveland, Chicago and Los Angeles. In addition, the National Broadcasting Company assumed certain of the production expenses. Its contributions financed the cost of such items as studio or mobile units, engineering and lighting equipment, rehearsal space, studio engineering services and the services of technical and lighting directors and of various kinds of technical staff personnel.

American Inventory programs originated chiefly in New York and Chicago. The National Broadcasting Company offered the telecasts to stations affiliated with the network; and a sizable number of stations, besides the five NBC-owned stations previously identified, offered *American Inventory* either "live" or on kinescope. The average network for *American Inventory* was about forty stations. When Teleprograms first began producing, thirty-nine telecasts of *American Inventory* appeared each year. In 1954 it was decided to make certain changes in format and to commit somewhat greater resources to each telecast. Partly as a result of this decision the total number of telecasts produced annually was reduced from thirty-nine to twenty-six. Those produced during 1955 under the *American Inventory* label concerned a variety of subjects of general public interest. Many dealt with problems which under the American system of social organization are the responsibility, in the first instance, of local civic groups, private philanthropy and local government. Some of the more successful telecasts dealt with such subjects as the more recent advances in astronomy, progress in cancer research, rehabilitation of the handicapped, conservation of forest resources, the rôle of effective management in industry, the present state of scientific education, and improved personnel practices in industry. Problems relating to hospital administration, the training of nurses, civic reforms and the local school systems were also featured. Most of the telecasts were cast in a "dramatic documentary" form.

Because of various changes which have recently occurred in the policies of the commercial networks and the growing tendency of the commercial networks to include in their regular fare the public-service and educational features which characterized Teleprograms' offerings over the years, it was decided that the need for a program like *American Inventory* was no longer as urgent as in the past. Hence, after a highly successful series of telecasts developed during 1955, a decision was made early in 1956, to suspend production and broadcasting under the *American Inventory* label and such suspension actually occurred in the Summer of 1956. Commitments made by the Foundation to Teleprograms Inc. during the two years under review amounted to $355,000.

Operations of Teleprograms Inc. were in charge of Mr. Robert Wald, who served as Executive Director and producer of the telecasts. Consultants for production were Professor Harold F. Clark of Columbia University and Professor Joseph H. Park of New York University.

REGIONAL RADIO SERIES ON ECONOMIC DEVELOPMENT TELEPROGRAMS INC.–NBC RADIO NETWORK

Over the past several years, Teleprograms Inc. has also assisted in financing a series of radio transcriptions which depict the economic and cultural progress of various sections of the United States. The first series of such transcriptions, thirteen in number, entitled "Heritage Over the Land," related to the Southern States of the United States and was produced in 1954. Subsequently, a similar series, also thirteen in number, entitled "New England: A Regional Survey," was developed for the New England area. Immediate responsibility for both of these radio projects was assumed by Mr. Edward Stanley, in charge of Public Service Programs for the National Broadcasting Company.


NEC

The New England Council

commends for distinguished service to the region

Edward Stanley

Manager of Public Service Programs,
National Broadcasting Company,

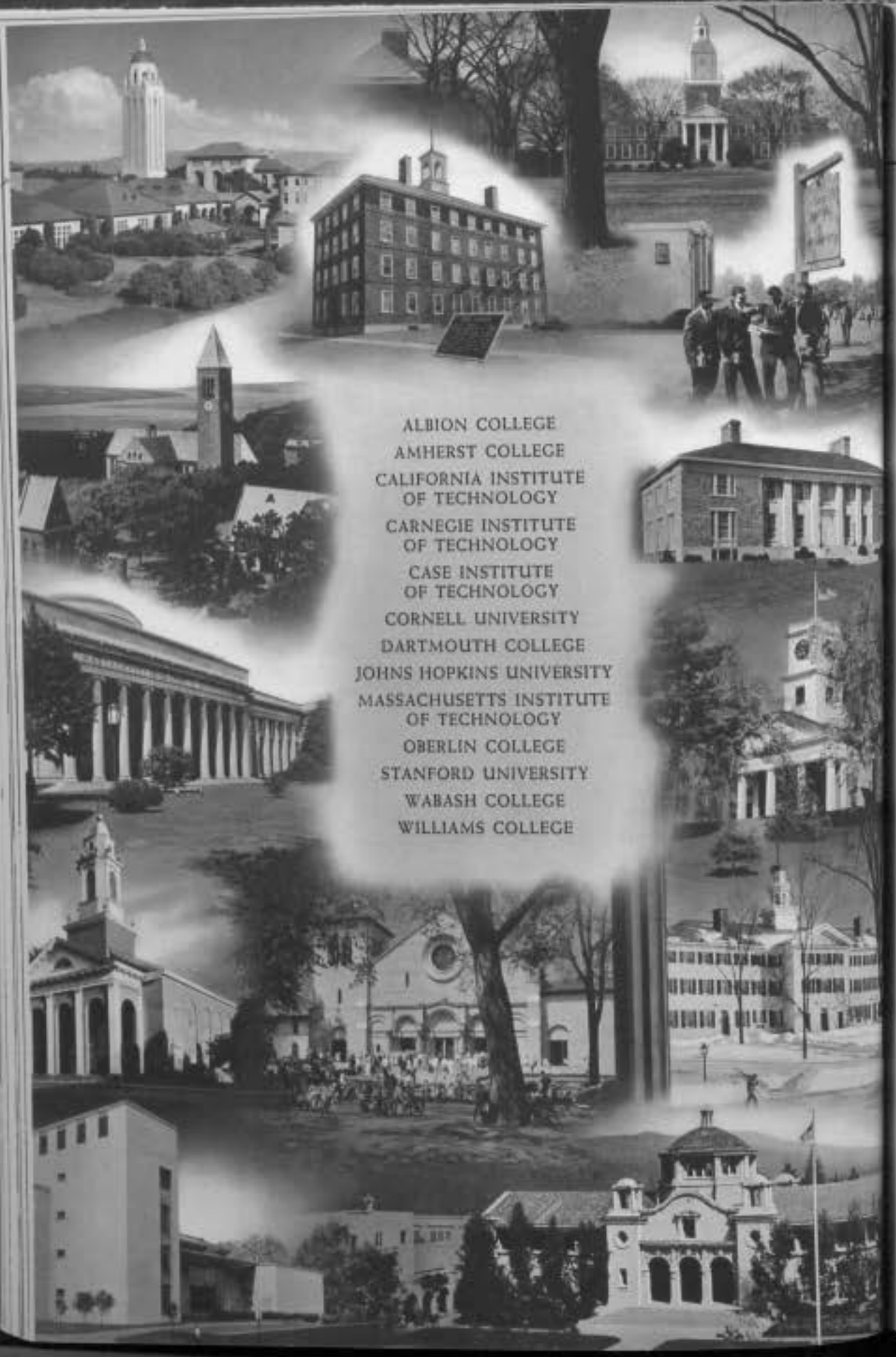
for the comprehensive and penetrating study of New England
in the radio series
"New England: A Regional Survey"

Boston, December 10, 1953

In addition to providing air time for each series, or offering it to stations affiliated with the network, the National Broadcasting Company, through its Public Affairs Division, contributed substantially to the production costs of the series. For the New England series considerable assistance was also received from the New England Council. This body subsequently described the series of transcriptions devoted to the New England area as one of the most comprehensive reports ever made by radio on that region's economy and awarded Mr. Stanley and the Public Affairs Division of NBC a citation for their achievement. The citation expressed the commendation of the Council "for distinguished service to the region" and "for the comprehensive and penetrating study of New England" in the radio series.

Late in 1955 Teleprograms Inc. earmarked $8,000 in its budget to assist in the production of still a third series of radio transcriptions for this kind of sectional coverage. In this projected series of thirteen programs, the economy of the Pacific Coast region of the United States will be surveyed. A "team" from the Public Affairs Division of the National Broadcasting Company, consisting of Mr. Harold Blum, writer, and Mrs. Dorothy Culbertson, producer, has been assigned to this project. At this writing, most of the field work has been done and the various reports have been "taped." When suitably edited and transcribed, this material will be made available as thirteen separate educational, public-service radio programs. Mr. Edward Stanley is again providing executive direction for the project. As in the case of the first two regional series, the Public Affairs Division of the National Broadcasting Company will assume many of the costs of producing the new series, will broadcast the resulting programs on NBC stations, and will assume responsibility for offering them to stations affiliated with the network.

These thirty-nine radio transcriptions, already produced or about to be produced under this arrangement between Teleprograms and NBC, will, it is anticipated, provide a rather unique record of the extraordinary changes that have taken place in the American economy since the Second World War.



Corporate Support of Higher Education

COUNCIL FOR FINANCIAL AID TO EDUCATION, INC.

Among the Foundation's various interests in the area of higher education, one of the more substantial during the past four years has been the Council for Financial Aid to Education, Inc. In cooperation with three other foundations, namely, the General Education Board, the Carnegie Corporation of New York, and the Fund for the Advancement of Education, the Alfred P. Sloan Foundation undertook, in 1953, the responsibility of providing financial support for this organization. The initial commitment made to the Council by each of the four foundations for a three-year period was $150,000.

At that time, the Council itself had just received its Certificate of Incorporation, having been organized largely as a result of the initiative taken by some of the nation's leading industrialists, among them, Messrs. Irving S. Olds, Frank W. Abrams, Alfred P. Sloan, Jr., Walter P. Paepcke and Henning W. Prentis, Jr. These industrialists were concerned about the financial problem facing American higher education. They felt that industry ought to contribute more generously to the support of our colleges and universities; and they believed that industry would do so if somewhat better liaison could be established between corporate enterprise and the potential recipients of industrial funds and if industry as a whole could receive more precise and more continuing information about the needs of higher education.

Institutions participating in the Alfred P. Sloan National Scholarship Project.

The assumption that higher educational institutions may properly expect greater assistance from industry was predicated by these leaders on a variety of considerations. One of these is industry's obvious reliance upon higher education to recruit, and to train in the various intellectual disciplines, a constant supply of young men and women needed to staff industrial enterprise and to provide managerial leadership. A second is the dependence of industry upon our higher educational facilities for the intramural and most of the extramural training facilities required for the development of industry's personnel. Still a third consideration is the rôle of universities in maintaining basic research in all branches of knowledge and more especially in the physical and life sciences where advances in fundamental concepts are of the utmost importance to the technological advance of industry itself.

In its various activities the Council for Financial Aid to Education has sought to uncover some of the obstacles which its original sponsors felt stood in the way of greater corporate support of education. In a general way it seeks to serve as a liaison agency between industry and education and to inform industry and the general public about the nation's higher educational needs. The Council's own published basic purpose is stated to be that of promoting "objectives of great public interest and of direct concern to business and industry involving the welfare of our American system of education." In its Certificate of Incorporation, this statement is more precisely interpreted. In this document the Council declares that one of its primary aims is that of promoting a better understanding by industry and the public at large of the rôle which privately-financed education has played in the economic development of the United States and the success of American business enterprise. A second stated objective is that of serving prospective contributors to higher education and higher educational institutions themselves in an advisory and cooperative capacity and assisting them in their mutual efforts to augment educational resources. Still a third stipulated objective is the broad one of increasing understanding on the part of both industry and the public of the importance to the general welfare of adequate financial support for privately-endowed and financed educational institutions and of the responsibility properly

attributable to nongovernmental, voluntary organizations, particularly industries, foundations, labor unions and like bodies, for meeting this need. Apparently the Council's special concern for privately-financed educational institutions stems from the assumption that the private institutions face a more difficult financial future than those supported by public funds; however, public institutions are apparently not excluded from the Council's general program. It should be added that, in its published reports, the Council makes it clear that its purpose does not embrace the actual collection of funds or any form of direct solicitation of support for educational institutions.

In the four years which have elapsed since the Council's creation, its directors and staff appear to have enjoyed considerable success in achieving its corporate purposes. The Council has become a major clearing house for information and publicity dealing with the problem of financial support for higher education in America. Chiefly through publications, forums, conferences and various kinds of visual aids, such as motion pictures, the Council has itself become a principal source of such information and publicity. In carrying forward its various activities the Council has sought to identify in some detail the various needs of the colleges and universities and to indicate to prospective givers which needs might be given priority. It has been especially helpful to industry in collecting, appraising and publishing information on the practices which industry observes in making grants to colleges and universities; and in reporting upon the very considerable expansion that has taken place in the volume of industrial giving in recent years. The Council has also suggested various new procedures which corporations might observe if they seek to provide financial assistance to colleges and universities.

Throughout its existence, one of the Council's most effective means of discharging its responsibilities has been the issuance, at intervals, of various kinds of information leaflets. The titles of some of the more recent ones indicate rather precisely what kind of information the Council has furnished its various constituencies and the nature of the problems with which it has been concerned. Among these titles are

Student Tuitions and the Costs of Higher Education; 'Small Business' and Higher Education; Company Foundations; Publication of College and University Financial Reports; and *College Faculty Salaries.* Of the more substantial publications mention might be made of one on college scholarships and of several others on corporation aid to higher education and the practices observed in rendering that aid.

In August 1956 the Council released a 16-page pamphlet entitled *Management is Doing a Job,* the results of a survey made among approximately eighty corporations. In this was depicted the progress which had been made in the past few years by some of the nation's leading industrial concerns in finding ways to help colleges and universities financially. It was reported that, among corporations that had reported both in 1952 and in 1955, there had been, in the Council's own words "an enormous growth in both the dollar volume and the range of grants to colleges and universities." For thirty-eight companies which had reported in both 1952 and 1955, the volume of grants had increased from somewhat over $8 million to somewhat over $17 million. It was also ascertained that the number of companies giving to education, at a rate of $100,000 per annum or more, had increased from fifteen in 1952 to thirty-one in 1955. As respects the pattern of giving, the Council noted that, in the same three-year period, industrial grants for scholarships rose from eighth place to fourth place in dollar volume and that contributions for unrestricted purposes rose from 21 to almost 25 per cent of the total given.

During 1956 the Council reported that it had interested the Advertising Council, Inc. in conducting a two-year public service campaign on behalf of higher education. The campaign's announced purpose is to make as wide a constituency as possible in America conscious of the financial needs of the colleges and universities and of their importance to America's culture. To insure maximum cooperation from higher educational institutions in this campaign, the Council for Financial Aid secured the services of Dr. John R. Everett, President of Hollins College, Hollins College, Virginia. Dr. Everett is to serve as consultant.

The Council's board of directors consists of approximately 28 leading industrial executives and has a very substantial representation from the leadership of the colleges and universities themselves. The Chairman of the Board is Mr. Irving S. Olds, former Chairman of the Board of the United States Steel Corporation. Mr. Frank W. Abrams, former Chairman of the Board of the Standard Oil Company of New Jersey, is Chairman of the Council's Executive Committee; and Dr. Courtney C. Brown, Vice President of Columbia University and Dean of its Graduate School of Business, is the Council's Treasurer. Dr. Wilson Compton, former President of the State College of Washington, has served as President of the Council since its inception. During 1956 Dr. Frank H. Sparks, former President of Wabash College and one of the original incorporators of the Council, was elected a Vice Chairman of the Board. Dr. John A. Pollard serves as Director of Research.

Offices of the Council are maintained at 6 East 45th Street, New York 17. The original three-year commitment of this Foundation, along with those of the other three participating foundations, expired in September 1956. This Foundation's new commitment of $100,000, also matched by the other three foundations, was made on January 5, 1956. This commitment expires in September 1958.

ASSOCIATION OF AMERICAN COLLEGES—AMERICAN COLLEGE FUND

In the evolving long-range efforts of the leaders of American higher education to encourage industrial support of the colleges, there have been other developments besides the creation of the Council for Financial Aid to Education. One of the more important of these has been the State or regional college association or foundation. Its purpose has been to make available to industry and certain other potential donors an opportunity to make a contribution, the proceeds of which may be applied to several institutions within a defined area; or, if the industrial giver so desires, it may serve as an administrative channel through which the gift can be directed to named institutions. At the beginning of 1956, it was reported that some thirty-seven of these State or regional college associations had been organized.

In the course of the operations of the college associations, it became apparent that an agency with similar purposes, but having a somewhat broader jurisdiction might prove valuable to the college world. Such an agency, it was felt, was necessary to the colleges' efforts to present their needs to industries which have producing and distributing centers all over the nation. The possibility of establishing a national agency of this kind was discussed at various meetings of the Commission on Colleges and Industry of the Association of American Colleges; and, at a meeting held at Indianapolis in April 1953, it was agreed to set up such an agency for one year on an experimental basis. This Foundation made a grant in the amount of $10,000 to support the experiment; and the Associated Colleges of Indiana provided temporary headquarters in Indianapolis. The leader of the movement was Dr. Frank H. Sparks, then President of Wabash College and President of the Associated Colleges of Indiana. Mr. H. E. Hastings, Jr. served as secretary.

At the annual meeting of the Association of American Colleges, held in Washington in 1955, this experimental activity was reviewed at length. It was discussed further at a conference of the Association's Commission on Colleges and Industry held in Indianapolis in August of the same year. Both meetings expressed approval of the experiment; and it was generally agreed among the educators present that some sort of permanent instrumentality should be established which could appeal to industry on a nationwide basis.

Steps to this end were promptly taken. Simultaneously this Foundation was approached and requested to consider support on a three-year basis for such an instrumentality. This request was approved by the Foundation's Trustees and a grant of $45,000, payable at the rate of $15,000 per annum, was authorized for the period beginning May 31, 1955. The grant was made on condition that, in each of the three years for which the commitment was to run, the Association of American Colleges raise $30,000 additional from other sources to provide, with the Foundation's grant, an annual operating budget of $45,000. Plans were made to inaugurate the new agency in October 1955 and to begin

at that time the first systematic campaign to solicit funds from industry on a nationwide basis.

As a result of formal action taken by the Association of American Colleges the structure of this new agency was simplified. A special "Action Committee" was set up within the Association's larger Commission on Colleges and Industry; and this new Committee undertook direct responsibility for the program. Dr. Sparks became the Action Committee's chairman and Mr. Hastings, its permanent secretary. In addition to these two, the Committee consists of five college president members of the Association who serve on a rotating basis.

Formal authority to collect funds from industry and disburse them and to engage in other necessary financial transactions was subsequently conferred upon the Action Committee by the parent Association. As an official name for this new means of securing the support of industry the Association decided on the title "American College Fund." Contributors to this Fund may order such distribution of the proceeds of their gift as they may desire. Donors may direct that the proceeds of the gift shall go only to privately-supported liberal arts colleges. Undesignated gifts are to be divided up among State and regional college associations according to the number of colleges in each such State and regional association which are members of the Association of American Colleges. These State and regional bodies may distribute the proceeds among member institutions according to whatever formula of distribution has been previously approved.

During the first year of operations under this new dispensation, the funds to supplement this Foundation's contribution for the Commission's operating budget came from the Standard Oil Foundation, Inc. (Indiana); The United States Steel Foundation, Inc.; the College Life Insurance Company of America; the General Foods Fund, Inc.; the General Electric Educational and Charitable Fund; and the Union Carbide Educational Fund.

Both the identity of the various corporate contributors to the operating budget of the American College Fund and the response to its initial appeal on behalf of the colleges which the Fund has received from industry indicate that at least a sizable segment of industry regards this development favorably. In the six-month period after November 1, 1955, more than 160 representatives of corporations with a nationwide structure were interviewed by groups of college presidents representing the Fund. According to the Fund's officers, the response was heartening. Available evidence indicates that industrial executives welcome the Fund not only as a vehicle for making corporate grants to higher education but as a useful instrument for direct and constant communication between the college leadership and the leadership of industry.

Besides maintaining the American College Fund, the Commission on Colleges and Industry of the Association of American Colleges discharges certain other responsibilities. These include advisory services to State and regional associations; service as a clearing house for material of interest to industry and the colleges; and the issuance, periodically, of various bulletins, especially its so-called "Action Committee Action," and directories of the State and regional associations of colleges and universities. Occasionally it sponsors special conferences or workshops. The Commission's offices are presently located in Indianapolis, Indiana.

Alfred P. Sloan National Scholarship Project

SINCE THE ISSUANCE of the last biennial *Report* of the Foundation, a fairly rapid expansion has taken place in its National Scholarship Project and it has now become one of the Foundation's major interests. In 1953 the first scholarships were awarded to twenty-five young men in four of the nation's leading technological institutions. They matriculated in the autumn of the same year and, in June 1957, will become the first group of scholarship holders to receive the baccalaureate degree. In 1954 seven more institutions were included in the project and the number of scholarships available in any one year was doubled. At the same time, a decision was taken to make these scholarships available in certain colleges of liberal arts and sciences as well as in technological institutions. Finally, in 1956, two additional institutions joined the plan and the number of scholarships was again increased. By the end of 1956, therefore, some 172 young men were receiving aid under this plan.

When the existing program achieves its maximum level in 1960, it is anticipated that about 230 Alfred P. Sloan National Scholars will be enrolled in the thirteen associated institutions. These institutions are as follows: Albion College, Albion, Michigan; Amherst College, Amherst, Massachusetts; California Institute of Technology, Pasadena, California; Carnegie Institute of Technology, Pittsburgh, Pennsylvania; Case Institute of Technology, Cleveland, Ohio; Cornell University, College of Engineering, Ithaca, New York; Dartmouth College, Hanover, New Hampshire; Johns Hopkins University, School of Engineering, Baltimore, Maryland; Massachusetts Institute of Technology, Cambridge,

Massachusetts; Oberlin College, Oberlin, Ohio; Stanford University, Stanford, California; Wabash College, Crawfordsville, Indiana; and Williams College, Williamstown, Massachusetts. To maintain the present level of the scholarship project, the Trustees of the Foundation support a commitment which, at any given time, is somewhat in excess of $1 million. The annual cash outlay required by the present project is about $420,000.

Under the administrative plan for this project adopted by the Foundation's Trustees, the Foundation does not itself entertain applications for the scholarships. All such applications must be made to the associated institutions which have complete responsibility for selecting the actual recipients. The faculties and administrative officials of these institutions apply the selection criteria normally applicable to candidates who seek admission and who apply for scholarship assistance. Virtually every one of the institutions requires an applicant to take the tests supplied by the College Entrance Examination Board; and, in determining the applicant's needs, each institution gives consideration to the recommendations made by the College Scholarship Service. A student applying for a Sloan National Scholarship, moreover, must fulfill all of the special academic and other requirements of the institution to which he applies.

There are also certain special criteria affecting selection for the Sloan Scholarships which the Foundation seeks to apply and which the associated institutions have agreed to apply. They arise out of the Foundation's desire to uncover leadership talent and organizing ability. As stated by Mr. Alfred P. Sloan, Jr.: "The purpose of the Foundation in setting up this project is to find and gather together, at selected American educational institutions, outstanding representatives of American youth, regardless of their economic background, who show exceptional promise of becoming leaders in their chosen careers and of fully participating in community life." Accordingly, besides high scholastic achievement in preparatory school and a reputation for personal integrity, the record submitted in support of an application for a Sloan National

Scholarship is scanned for evidence of unusual industry and initiative in enterprises which are intrinsically worth while, for organizing ability, and for a sense of social responsibility. Stated more generally, the objective of this undergraduate scholarship project is to discover and give assistance to the graduates of our preparatory and high schools who possess superior academic qualifications and who appear to possess those personal qualities which indicate potential leadership capacity in some approved field of vocational or professional endeavor. Directors of admissions in the educational institutions associated with the Foundation in this enterprise seek especially for evidence of a capacity on the part of the applicant both to assume and to discharge responsibility satisfactorily and to work harmoniously and effectively with others.

Funds supplied by the Foundation to the associated institutions make it possible for each of them to provide an annual stipend for one of the Sloan Scholars of as much as $2,000 if the successful applicant requires assistance of that magnitude. In other words, it is the aim of this project to make it possible for students who meet the academic and other qualifications to be given stipends commensurate with their economic need. If a student is selected for a scholarship but is not in need of economic assistance, the institution awarding the scholarship gives him the minimum stipend of $200. The Sloan National Scholarships are tenable for the duration of the normal baccalaureate program in each of the associated institutions. However, in order to renew a scholarship throughout the three remaining years of the baccalaureate program, the holder of the scholarship must satisfy in every way the scholastic and other standards of the institution in which he is enrolled. He must also continue to exhibit the initiative, industry, and other personal qualities which originally recommended him as a desirable member of the fraternity of Sloan National Scholars.

In order that this project may "pay its own way" within the institutions associated with it and not place any financial burden upon them, it was agreed at the outset that, in addition to the funds contributed for the scholarship stipends proper, the Foundation would also give to each institution a special "cost-of-education" allowance. This was to be

considered a payment for "overhead," that is, a payment to reimburse the institution for the difference between the amount contributed by the scholarship student's tuition and the actual cost to the institution of educating that student. Audited costs of educating a student vary from institution to institution and vary also within departments of particular institutions. The Foundation's contribution to this excess cost is a flat sum, varying from $500 to $650 per scholarship per year. The policy of offering "cost-of-education" or "overhead" allowances of this nature has become fairly general in the case of scholarship projects recently developed by foundations and by industry; they are strongly supported by educational authorities who are understandably critical of a scholarship policy which does not pay the entire institutional cost of educating a scholarship holder. In common with other higher educational institutions, most of the colleges and universities which have embarked upon this project with the Foundation have raised their tuition rates since the project was initiated. Such increases in tuition are taken into consideration in the financial formula developed by the Foundation for these scholarships and an adjustment is made in current grants which reflects tuition increases.

In publicizing the Sloan National Scholarships, the Foundation attempts to supplement the efforts of the associated institutions. Annually, it sends descriptive literature about the scholarships to preparatory schools, private and public, throughout the United States. The Foundation also takes the initiative in providing means for an exchange of information among authorities of the associated institutions and for solving any problems that may arise out of this project that affect all of the institutions involved. For this purpose, it sponsors an annual meeting attended by representatives of all of the associated institutions. In addition to administrative problems arising out of the project, the agenda of this meeting include discussions of certain major current problems in higher education. The last two such annual meetings were

Photographs of Members of the First Senior Class of Alfred P. Sloan National Scholars taken at Annual Dinner at Waldorf-Astoria, November 26, 1956.

held at Hot Springs, Virginia. A Foundation representative also maintains a certain amount of personal contact with authorities of the institutions associated with this scholarship project and with the scholarship holders on the various campuses.

To facilitate the discharge of these various supplementary responsibilities, the Foundation established, in 1954, a separate division, the primary concern of which is the Sloan National Scholarship Project and other enterprises of a similar nature which may be financed by the Foundation. Mr. Joseph Allen was appointed head of this division and has the title of Administrator of the Alfred P. Sloan National Scholarship Project. There is also a special committee of the Board of Trustees which supervises all Foundation operations relating to scholarships and fellowships. This committee consists of the following: Mr. Sloan, Mr. Bradley, and Dr. Zurcher.

Following a lengthy study of this project, it was decided, in 1956, to expand it by approximately fifty per cent. Additional scholarships were assigned to certain of the private schools already participating in the project and it was decided to make scholarships available at the junior and senior levels in selected State universities and schools of technology. This expansion was formally approved by the Board of Trustees early in 1957. As a result of this expansion it is anticipated that some 152 scholarships will be added to the present total and that the annual cash outlay for scholarships will be increased by about $250,000, bringing the total annual outlay to about $700,000.

In selecting the institutions participating in this project, an attempt has been made not only to secure geographical distribution as to their own location but also to select institutions which normally draw from a fairly extensive geographical area. These considerations have contributed to the fairly extensive geographical distribution of the students now enrolled in the project. The 172 students currently deriving scholarships from this project come from thirty-one States of the United States. The largest contingent, 20, comes from Pennsylvania. California contributes 18; Illinois, New York and Ohio, each 16; and Massachu-

setts, 10. The list of States and the number of scholarship holders from each follows:

Arizona	5
California	18
Colorado	1
Connecticut	1
Florida	1
Georgia	2
Illinois	16
Indiana	5
Iowa	1
Kansas	1
Louisiana	1
Maryland	5
Massachusetts	10
Michigan	8
Minnesota	5
Missouri	5
Montana	2
Nebraska	1
Nevada	1
New Jersey	8
New York	16
Ohio	16
Oklahoma	4
Oregon	4
Pennsylvania	20
Tennessee	2
Texas	3
Virginia	2
Washington	7
West Virginia	1
Wisconsin	4
Washington, D. C.	1
	172

Visiting Student Project

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

FOR SEVERAL YEARS the Foundation has been providing most of the support of a rather unusual project conducted during the summer months on the campus of the Massachusetts Institute of Technology. Known officially as the "Foreign Student Summer Project," it provides a special educational and research program for some 65 students who come to the campus each year from various foreign countries. In addition the project provides the participants an opportunity to become acquainted with the American cultural background.

The plan for bringing these students to Cambridge was conceived shortly after World War II by a group of undergraduates at MIT. These originators of the project thought it would provide an opportunity for American educational enterprise, and particularly students in American institutions, to contribute to the reconstruction of the war-devastated European Continent. To these student sponsors, the project also suggested an effective method of fostering international understanding on a person-to-person basis. These original objectives have remained basic to the plan; but, as the project has evolved, it has been broadened to include students from virtually every continent and from all of the major countries of the globe. During the last few years, the sponsors of the project have sought to make it particularly useful to students from the technically underdeveloped countries of the world.

Members of the 1955 Group of the Foreign Student Summer Project.

In the years 1955 and 1956, the project brought to Cambridge approximately 125 students. In this total, there were representatives from almost every Western European country. One or two students came from each of the Near Eastern states of Turkey, Iraq, Israel and Lebanon; and in Africa the project drew participants from Egypt, the Union of South Africa, Nigeria and the Gold Coast. Other countries which sent one or more students included Japan, Korea, Burma, India, Malaya, Indonesia, New Zealand and Australia.

In selecting the visiting students, the authorities at the Institute are assisted by special *ad hoc* committees in the countries from which the students are drawn. These usually consist of prominent local educators who are advised by a cultural attaché of the local American embassy or legation. Those students finally chosen to come to Cambridge are selected from the list of candidates thus compiled. Virtually all the students selected for this project are mature scholars who have done graduate work and are familiar with the discipline of research. As a matter of fact, in recent years, the project has restricted the choice of visiting students to those who have had at least the equivalent of an American baccalaureate degree and two years of additional academic work, either in research or in teaching. In 1955 about half of the participants held the doctor's degree in some branch of science or engineering.

Although the period of residence at MIT is a short one and comes during the summer months when teaching and research activity are at the low ebb of the calendar year, a relatively satisfactory instructional and research program has nevertheless been provided for this project. In a recent year, some fourteen departments of instruction at MIT assumed responsibility for the visiting students' programs. Among these were the various engineering departments, mechanical, chemical, electrical, civil and aeronautical. Students also developed programs in food technology, physics, chemistry, biology, metallurgy and mathematics. Most of the research projects were originated by the students in insti-

tutions in the country from which they come; the facilities at the Institute permit them to extend these projects or to complete them.

The academic and research program made available to these foreign visitors is supplemented by various activities throughout the summer months designed to acquaint a foreign visitor with American life and culture. Among these activities are visits to the Berkshire Music Festival at Tanglewood, Lenox, Massachusetts; visits to important theatrical and musical events in Boston; and a weekend conference in New Hampshire. Some weeks prior to the end of their sojourn in America, the students are conducted on a fairly extensive tour which takes them to some of the major cities in the Eastern part of the United States including New York and Washington, D. C., and to such industrial centers as Pittsburgh, Cleveland and Detroit. Arrangements are made at these centers to permit students to interview business, labor and governmental leaders and to observe operations at major industrial installations.

A committee of four students at the Institute assumes direct responsibility for the operations of this project. The faculty's supervisory responsibility toward the project is discharged by a special advisory committee of six members headed by Professor Paul M. Chalmers, MIT's adviser to foreign students.

The Foundation's original commitment to this project was made in 1950 and amounted to about $21,000. Grants made to the project during 1955 and 1956 totalled $142,000. Small amounts have also been contributed from other sources; and considerable assistance in kind has been given the project by the United States Government through its student-exchange and economic-assistance programs in foreign countries and through its consulates and embassies. During the summer months many of the Institute's students also contribute of their time. Finally, mention should be made of the contribution of the Institute itself and especially of the Institute's faculty. Virtually all of the cost of instruc-

tion and various other administrative costs are borne directly by the Institute and much of the instruction has been contributed gratis.

Among the many foreign student projects which have been set up in America since the end of World War II, this project at MIT has developed a fairly unique pattern. Those who have appraised it think well of it. They believe it has made a substantial contribution to education and to international understanding.

College Faculty Incentive Projects

For some time, the Foundation has been giving thought to the possibility of introducing into the educational realm some form of incentive payment for outstanding performance comparable to payments of that type in industry and other areas of human endeavor. Probably the principal obstacle to the satisfactory application of any such plan in the college and university world is the absence of valid criteria for evaluating performance and identifying relative degrees of effectiveness of such performance. Awareness of this and other difficulties has, however, spurred rather than discouraged the Foundation's desire to assist in the development of a practical plan.

Accordingly an experiment in this direction, initiated at the Massachusetts Institute of Technology in 1955 with a contribution of $250,000 from sources other than the Foundation, was continued during the academic year 1956-1957 with the Foundation's support. The grant from the Foundation equalled the original contribution. From the funds thus supplied, awards are made to both faculty and administrative personnel for outstanding performance. Appropriate Institute committees are responsible for choosing those members of the MIT staff who, in the opinion of their colleagues, merit this special recognition.

Both the Institute and the Foundation regard this project as distinctly experimental. Whether or not it establishes a pattern of action which is soundly conceived and which can be effectively administered is still to be determined. Nevertheless, it is believed that, when the results of this experiment have been assayed, they will indicate that the possible disadvantages of such a project are outweighed by the advan-

tages; and that real gains in morale and in performance will result from the introduction, on the American campus, of some kind of merit award that takes the material form of salary supplements or a bonus.

On a smaller scale, a faculty-awards project has been undertaken by Colgate University with a grant of $10,000 from the Foundation. In general, this project has aims similar to those which inspired the larger contribution to the Massachusetts Institute of Technology.

Grants-in-Aid to Certain Colleges

IN ITS PROGRAM to assist higher education, the Foundation has occasionally made grants to individual colleges and universities for certain limited purposes. These grants are in addition to the rather extensive contributions made to colleges and universities under certain general projects such as the Foundation's National Scholarship Project and the Foundation's programs for scientific and medical research and training outlined in other parts of this *Report*. These special grants to individual colleges are indicative of no general policy although normally their purpose is related fairly directly to one or another of the major areas of activity in which the Foundation has been supporting projects in the past.

Direct grants to colleges and universities include contributions to the following:

Colby College, Waterville, Maine: for stipends for two undergraduate scholarships and cost-of-education allowance to the institution . . . . . $ 4,200

Colgate University, Hamilton, New York: to defray the administrative expenses of a special extramural economics study group for upper classmen . . . . . $ 2,500

Hunter College of the City of New York, New York, New York: to assist the College in conducting a graduate program for training research technicians in the biological sciences $10,000

Knox College, Galesburg, Illinois: to provide scholarships for upperclass students who elect a science-engineering curriculum $10,000

United Negro College Fund, Inc., New York, New York: contribution to the annual operating fund of the United Negro Colleges $10,000

Vassar College, Poughkeepsie, New York: contribution for general support . . . . . $ 5,000

College of Wooster, Wooster, Ohio: to provide a capital fund for the establishment of certain scholarships for students interested in science, the scholarships to be a memorial to Dr. Karl Taylor Compton, who was a graduate of Wooster and a Trustee of the Alfred P. Sloan Foundation, Inc. . . . $25,000

Aids to Professional Education

Industrial and Business Management

SCHOOL OF INDUSTRIAL MANAGEMENT
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ONE OF THE MAJOR projects in professional education to which the Foundation contributes funds is the School of Industrial Management at the Massachusetts Institute of Technology. Established in 1950 with a commitment from the Foundation in excess of $5 million, this School became the fifth major teaching and research division of the Institute. The School maintains both graduate and undergraduate programs. In the latter, it is currently enrolling about three hundred students, or approximately ten per cent of the freshman enrollment at the Institute. This program leads to the Bachelor of Science degree. The graduate program normally covers two years and leads to the degree of Master of Science in Industrial Management. In conjunction with other schools at the Institute and particularly the School of Humanities and Social Studies, it is possible for graduate students to proceed to the doctorate.

In the relatively short time since its establishment, the curricular resources of the School of Industrial Management have expanded considerably. Currently it has a staff of approximately forty scholars with professorial appointments. Their disciplines cover most of the curricular spectrum in business management. Principal developments have occurred in the fields of accounting, finance, human behavior, industrial relations, marketing and production; but important expansions

Reunion Group of Alumni of Sloan Fellows, Graduate Program in Executive Development, MIT, April 26-27, 1956.

have also occurred in the field of administrative policy, business history, law, and especially in quantitative analysis, including statistics.

As the School's curricular and other resources have expanded, its leadership has sought to give relatively greater scope to its graduate program. This becomes apparent in the fairly steady increase, over the past three years, of the number of graduate students enrolled for the two-year program leading to the Master's degree. In 1955 the regular graduate program enrolled sixty students, an increase of about thirty per cent over the enrollment of the previous year. In the Fall of 1956, about one hundred and ten graduate students were enrolled in the regular program of work at the School. In addition to these, the School normally enrolls each year a sizable number of graduate students in its Executive Development Program, a project discussed on a subsequent page of this *Report*.[1] As will be noted, a group of about thirty-five students in this project come to Cambridge for a twelve-month period and normally most of them become eligible for a Master's degree. Thus, the School's total enrollment of graduate students planning to take an advanced degree approximates one hundred fifty. Despite this considerable emphasis upon graduate instruction, there appears to be no present intention on the part of the Institute authorities to transform the School wholly into a graduate institution.

A development not unrelated to the foregoing discussion on the growth of graduate instruction in the School was the institution, during 1956, of a new ten-week Program for Senior Executives from industry. An experimental group of twelve such executives was begun during the Spring term; and the project was continued into the Fall term of 1956 with seventeen new enrollees. This is a true "refresher" type of course for men who have occupied responsible positions in major industries for a considerable part of their lives. Those enrolled in the Fall term of 1956 represented fifteen different colleges. Two of the enrollees had a Master's degree and two had the doctorate. The apparent popularity of this type of "refresher" course reflects the growing belief of American business in the desirability of more professional training

[1] See p. 107.

EDWARD PENNELL BROOKS

ELI SHAPIRO

W. V. A. CLARK, JR.

HOWARD W. JOHNSON

Dean Edward Pennell Brooks of the School of Industrial Management; Professor Eli Shapiro, Associate Dean; Professor W. V. A. Clark, Jr., Assistant Dean; Professor Howard W. Johnson, Director of Executive Development Program.

for individuals having managerial responsibilities and the desire of business to have our colleges and universities provide at least a part of that training.

Since the School's inception, its leadership has sought to avoid a teaching and research policy that emphasized too narrow a training or which would be primarily designed to produce staff specialists for industry. In his various official reports, the School's Dean, Mr. Edward Pennell Brooks, has reiterated this desire to avoid too much specialization. As respects both his own concept of the School and that of the School's faculty, says Dean Brooks, the purpose is not to train "specialists in any of the functional compartments into which business and industry are customarily divided." Rather the educational objective, again using Dean Brooks' words, is "understanding of enterprise itself, understanding its aims and purposes, understanding the interrelation-

ship of the productive function with that of distribution and of these with finance, all brought together by human beings organized in what we call administration." In outlining the curricular and general educational purpose of the School, stress has also been placed upon the desirability of having the students secure an understanding of the civic, social and general cultural environment in which industry operates and of the impact of that total environment upon the responsibilities which industrial management may be called upon to assume and the decisions which it may be called upon to make.

In the constant effort to develop a distinctive curriculum for the School of Industrial Management and to utilize in maximum degree its peculiar advantages, considerable thought has been given to exploiting to the best advantage the fact that it operates within the framework of an institution dedicated to science and technology. To that end, according to Dean Brooks, emphasis is being placed upon research and educational projects that bring together the resources of the School of Industrial Management and the resources of some of the engineering and scientific schools and departments of the Institute. Examples of such cooperative efforts are the joint seminars which have been set up with the faculty of MIT's School of Engineering. Thought is also being given to integrated educational and research projects which will take full advantage of MIT's leadership in the field of electronics. The application of computing machines and data processing to the needs of the business world, especially in such areas as accounting, forecasting, and managerial controls, are possible developments which will contribute to the unique rôle of this particular educational enterprise. An indication of the School's expanding interest in this broad field was the announcement, during 1956, of the appointment of Dr. Jay W. Forrester as Professor of Industrial Management. Dr. Forrester has been associated with MIT's Servomechanisms Laboratory and also with its Lincoln Laboratory.

From the outset, much thought has been given to the development of a research program at the School of Industrial Management and of

using the fruits of that research to strengthen the intellectual challenge of the School's teaching program. To that end, the Foundation established a special fund to finance research projects within the institution. This fund, which originally had a capital value of $1 million, has encouraged the development of a representative research program among the School's faculty during the last two or three years. At the time this research fund was set up by the Foundation, the School authorities were authorized to use both principal and income; for the time being, however, the School has been using only the fund's productivity. To assist the administration and faculty of the School in evaluating proposed research projects, a special research Advisory Committee was recently appointed. Early in 1956, this newly-established Committee and the authorities of the School approved ten research projects unconditionally and gave conditional approval to three others.

Graduate Seminar, Schell Room, Alfred P. Sloan Building, MIT.

Some of the major projects that have been undertaken or completed in recent months under this Sloan Research Fund and other funds include an attempt to apply quantitative analyses to various business problems such as production scheduling and inventory control; a study of factors responsible for wage changes in office and clerical occupations; an investigation into procedures employed by firms in making decisions on the pricing of new products; a fairly extended analysis of the effect of brand loyalty upon consumer buying; a study of the development of cracking processes in the petroleum refining industry; and an analysis of research and development problems in Norway.

Another set of projects presently scheduled for investigation at the School relate to topics such as the following: a consideration of the engineer as business man in American industry; an evaluation of factors which determine the most economical number of work stations in a production line; an investigation of the pricing and marketing of inventions; an investigation of ways and means for identifying and utilizing executive talent; the rôle of State governments in atomic energy development; and an analysis of data processing systems and case studies in computer installations. Two major projects, namely, an analysis of postwar capital markets and a study of various phases of hospital administration and operation have received their support from sources other than the Sloan Research Fund.

Several of these projects have already resulted in a number of publications. In the period under review, the Institute has published some fifteen reprints of reports and articles arising out of the research program of its faculty. The titles of these reprints may be secured by addressing the Dean of the School.

The School of Industrial Management is housed in the Alfred P. Sloan Building, a six-story structure on Memorial Drive in Cambridge. Approximately half of the Foundation's original commitment for the School was applied to the purchase price of this structure and for reconstructing and equipping it as an educational building. Also housed in this same building are MIT's Department of Economics and Social

Science; the Dewey Library in Business and Economics; MIT's Faculty Club; and its Center for International Studies.

Dean Brooks is a graduate of the Institute and was formerly Vice President in charge of manufacturing activities for Sears, Roebuck and Company. He was appointed to his present post in 1950. Dr. Eli Shapiro, Professor of Finance, serves as Associate Dean; and, during 1956, Professor W. V. A. Clark, Jr. was appointed Assistant Dean. Professor Howard W. Johnson is Director of the School's Executive Development Programs. Contributions to the School were continued during 1955 and 1956, under the Foundation's existing commitments, for the School's general operations and its Executive Development Programs.

THE AMOS TUCK SCHOOL OF BUSINESS ADMINISTRATION DARTMOUTH COLLEGE

Foundation financial support was continued during the biennium for still another institution in the area of business management, namely, the Amos Tuck School of Business Administration at Dartmouth College. The aid given this institution totalled $70,000. Funds thus contributed have been used largely to strengthen the School's research program which is supervised by the Dean of the School and by a member of the faculty who serves as Assistant Director of Research.

Titles of the various papers published by the Tuck School during the past two years will indicate the scope and nature of the research program which has been undertaken. These include *Technological Change: Who Gets the Benefits?; Cash Flow Through a Business: Where Does the Money Go?; Businessmen in Fiction; The Variable Annuity; The Proxy Battle; Everyone a Stockholder? Problems in Broadening Share Ownership;* and *The Effective Marketing Mix: Programming for Optimum Results.* Authorities of the Tuck School estimate that some 50,000 copies of these various titles were distributed during the academic year 1955-56.

With a small special grant from the Foundation, made during the Spring of 1956, the Tuck School undertook a two-day conference to identify some of the principal obstacles impeding the communication of the results of economic research to the general public and to specific constituencies. The discussions, in which some fifty specialists participated, sought answers to such questions as the following: How can researchers and journalists cooperate more effectively to promote understanding of public policy problems? How can research agencies make it easier for journalists to obtain and make use of research findings? How can researchers and editors for research agencies collaborate more effectively to improve the readability of publications without distorting findings or encroaching on the researcher's freedom of action? The general Chairman of the Conference was Professor Herbert C. Morton, at the time a member of the School's faculty. An equally important conference, which was attended by academic and business economists and economists associated with various Federal Government agencies, was held during the Summer of 1956 on the subject of economic growth.

Graduate Program in Executive Development

SCHOOL OF INDUSTRIAL MANAGEMENT
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

On April 26 and 27, 1956, the School of Industrial Management at the Massachusetts Institute of Technology held a reunion to observe the twenty-fifth anniversary of the founding of its graduate Program in Executive Development. This Program was begun by Dr. Erwin H. Schell, now Emeritus Professor of Industrial Management at MIT. In 1931 Professor Schell invited each of a group of business leaders, among them Mr. Alfred P. Sloan, Jr., to sponsor a young executive for a special twelve-month developmental course at the Institute. Each of the business leaders accepted the invitation and the first class of six "sponsored fellows" began work at MIT. Thus was originated what was probably the first of the many courses, now so popular, which use the resources of educational institutions to assist business enterprise in "developing" its potential managerial talent.

The various conferences and seminars which marked the occasion of the reunion at the School of Industrial Management brought together some 160 of the 226 men who had completed this Executive Development Program since 1931. Their careers, since leaving Cambridge, provide rather emphatic confirmation of the potential value of a project such as this one. The reunion proceedings also brought to the campus various outstanding authorities in the field of management who contributed a variety of papers under the general theme "The Next Five Years in Management." The papers have since been published by the Institute and bear the following titles: "Financing Future Expansion" by Dean Eli Shapiro; "The Look-Ahead in Labor-Management Rela-

tions" by Professor Douglass V. Brown of the Institute; "Tomorrow's Competition in Action" by Robert G. Dunlop, President of the Sun Oil Company; "Management Trends Ahead" by Peter F. Drucker; and "The Future of Management Practices" by Lawrence A. Appley, President of the American Management Association.

The administrative and educational pattern originally developed for this Executive development project at MIT has not been greatly changed in the intervening years. Each of the young men who, as a "sponsored" or Sloan Fellow, comes to Cambridge annually with his family undertakes a full academic program for a period of twelve months. Included in his course work are various of the disciplines represented in the curricula of the schools at MIT and especially of the School of Industrial Management. Besides such subjects as industrial relations, business management, finance, economic theory and various aspects of business and public administration, segments of the course work include subject matter from the humanities and embrace consideration of general social and public problems. From the project's inception, considerable use has been made of a system of informal seminars held throughout the year and led usually by off-campus experts, business and labor leaders, and individuals influential in the management of public affairs. Throughout the year, short periods are set aside for extended trips away from the campus to some of the nation's principal centers of finance and industry. These trips enable the students to meet and talk with some of the country's outstanding leaders of industry and leaders in political life and to observe the operations of various kinds of enterprise. During 1956 the entire group visited the Canadian capital where they were the guests of such Canadian leaders as Mr. C. D. Howe, Mr. W. E. Harris and others. This group also made extended visits to New York and Washington, D. C.

Although it was not originally intended that this program should lead to a degree, the formal curricular efforts of this group of students during their twelve-month stay at Cambridge may qualify them for the Master's degree at the Institute. This is conferred if, in addition to the satisfactory completion of his course work, a student in the group sub-

mits an acceptable thesis. In recent years, almost all of those enrolled in this project have fulfilled the requirements for the advanced degree.

Financial support of the Executive Development Program, on the part of the Foundation, began in 1938 and, except for a brief interruption during World War II, this support has been continuous. During recent years, Foundation contributions earmarked for this project have approximated $175,000 annually. These funds are applied to costs of administration and instruction, overhead expenses and various special costs. A sizable contribution is also made to the cost of the project by each of the industrial enterprises from which the students are chosen. This contribution includes payment of tuition at MIT. In addition, the individual enterprise from which the student is drawn pays his salary during his year at Cambridge.

The thirty-odd individuals annually invited to join this Executive Development Program are the product of an intensive selection process. Individual candidates may apply directly to the Institute for admission. Normally, however, those who go to Cambridge are nominated by the company or enterprise with which they are affiliated; and, in any case, some industrial concern or comparable organization must "sponsor" every candidate. Each candidate is subsequently interviewed by a representative of the School of Industrial Management and the names of the candidates finally selected are then announced. Every young man nominated for this project has behind him a record of effective service to his company and he has previously been carefully appraised by his superiors as regards his future potential. Each student in the group which finally emerges from this involved process of selection is likely, therefore, to be of a high order intellectually and to represent considerable potential managerial ability. His past record gives assurance that he can be relied upon to make the most of his Cambridge sojourn and to guarantee effective application of the product of his twelve-month special training at the Institute to his subsequent business or professional career.

As already suggested, developmental programs of this kind have become quite popular since World War II. A recent writer has esti-

mated that some thirty universities in the United States currently provide programs of a comparable nature. Their popularity may be attributed to the growing scope of managerial responsibility and to the increasing complexity of the problems which are presented for solution and decision by management in our day. Increasingly the responsibilities of industry extend beyond the intramural concern of a particular enterprise and embrace a whole complex of problems; and the issues these problems pose may have only an indirect bearing upon the welfare of industry as a whole or of a particular enterprise. Such issues relate rather to the community and to the economy as a whole. Nevertheless an intelligent contribution by management to the solution of these

Mr. Sloan and Members of a Seminar in the Executive Development Program at MIT, November 30, 1955.

problems may be of the utmost importance, not only to society but to the welfare of industry and of individual enterprise.

Partly, also, the popularity of these executive development programs may be attributed to the fact that, as the unit size of industrial enterprise increases, there is apparently a correlative tendency toward greater specialization, particularly among younger staff members and junior executives. Programs such as this at the Cambridge institution are designed to broaden the executive horizon within the enterprise. They overcome some of the less desirable effects of the trend toward specialization and facilitate the transition of executive personnel from positions that are essentially of a staff character to positions of broad responsibility.

One conclusion appears to be irrefutable and that is that American industry approves of the training, typified by the Executive Development Program at MIT, and of the objectives of such a program. This is apparent if for no other reason than that industry is willing to make serious sacrifices and go to a great deal of trouble in order to participate in such programs. At MIT individual enterprises not only provide the generous support of a financial nature to which reference has already been made, but they forego temporarily the services of the young executives selected for the twelve-month course and find replacements for that period of time. They are also willing to cope with the sometimes difficult personnel problem that arises from selecting one individual from many in a company's ranks who may have equal claim to consideration. The 25-year roster of this project at MIT also indicates that, once a company sends a student, representation is likely to continue year after year; or, at any rate, that candidates from the same company will be nominated for each successive annual class. Every year, moreover, as the project has expanded, many more companies have sent candidates and broad areas of industrial activity, not previously represented, have been included. During 1955, eighteen companies, large and small, were represented in the roster of the development group, the members of which came from fourteen States of the United States. The group that began work in 1956 represented twenty-one companies and came from thirteen States, the District of Columbia, Switzerland and Canada.

In the two years under consideration, the following broad segments of American industry have been represented: chemicals, automotive, railway, electrical appliances, aircraft construction, machine tools, utilities, food industry, business machines, electronics, communications, petroleum, photographic supplies and rubber. In addition, representatives have attended from the various professional branches of the armed forces of the United States.

An excellent article about the Executive Development Program at MIT by Mr. William H. Whyte, Jr. entitled "Sabbaticals for Business Men?" appeared in the June 1956 issue of *Fortune Magazine*. It considers in some detail the purposes of projects such as this one and their impact upon the problems of management in contemporary industrial enterprise.

Currently the Director of the project at the School of Industrial Management is Professor Howard W. Johnson. Associated with him is Mr. Theodore M. Alfred.

Psychiatric Education

MENNINGER SCHOOL OF PSYCHIATRY

AMONG THE professional disciplines recently singled out by the Trustees for assistance in developing personnel is that of psychiatry. At least a limited interest was manifested in this direction by a grant made early in 1956 to the Menninger Foundation, Topeka, Kansas. This grant, involving a commitment of $150,000, payable over a three-year period, will be used to supplement the teaching resources of the Menninger Foundation's School of Psychiatry. The latter is an integral part of the operations of the Menninger Foundation which also include the famous Menninger Clinic and other equally well-known activities located chiefly in Topeka.

Since its inauguration, about a decade ago, the Menninger School of Psychiatry has developed into one of the largest training centers of its kind in the nation. According to the School's most recent official report, a total of 385 alumni now practice in some thirty-seven States of the United States, in the District of Columbia, Puerto Rico, and in six foreign countries. Current enrollment (1956-1957), according to an official report of the School, reached a record level of 135 physician-students in residence who hold fellowships in the School. This number includes 102 who were receiving training as resident physicians at the Winter Veterans' Hospital, at the Topeka State Hospital and at the C. F. Menninger Memorial Hospital on the Menninger Foundation's own grounds.

In addition to the usual three-year residency program, the Menninger School of Psychiatry offers a five-year program which combines

three years of residency at Topeka with two more years of clinical training and experience at affiliated institutions in Kansas and elsewhere. This five-year program qualifies physicians to take examinations for certification in psychiatry; hence, for certification, the program satisfies the normal requirement of three years of formal training and two additional years of practical experience. Fully half of the resident physicians in the Menninger School are now enrolled in this lengthier course.

Over the past few years, the Alfred P. Sloan Foundation has made small grants on the order of $10,000 per annum to the Menninger center, the proceeds having been applied to training or research purposes. During 1955 Dr. William C. Menninger, Secretary of the Menninger Foundation, approached the Sloan Foundation with a plan to invite to Topeka, in the capacity of "visiting professors," outstanding psychiatrists or leaders in other relevant disciplines. Such scholars would

The C. F. Menninger Memorial Hospital, Topeka, Kansas.

be appointed to a visiting professorship or lectureship, would spend a period of time ranging from two months to as much as two years in Topeka, and serve as faculty members of the School of Psychiatry. Their principal responsibilities would be leadership of, and participation in, informal discussions with the resident Fellows of the School and individual consultations with them. In addition the visiting scholar would be invited to use the opportunity to further or complete special research projects in which he might be engaged. It was not intended that he should engage in any clinical activity.

The proposal, thus advanced, was approved by the Sloan Foundation and the grant previously described was subsequently authorized for this purpose by the Foundation's Trustees. Both Dr. W. C. Menninger and Dr. Karl Menninger, Dean of the School, are confident that the funds thus provided will assist materially in enriching the training program at Topeka for which they and their colleagues are responsible.

Hospital Administration

SLOAN INSTITUTE OF HOSPITAL ADMINISTRATION
CORNELL UNIVERSITY

STILL ANOTHER professional field about which the Foundation became concerned during the biennium under review and to which it has made a substantial contribution is that of hospital management as distinguished from medical practice. After prolonged investigation of the needs in this field, and especially of the research and training needs, the Foundation's Trustees, in July 1955, decided to make a sizable commitment. This took the form of a grant of $750,000 to Cornell University to establish at that institution the "Sloan Institute of Hospital Administration."

Various considerations motivated the Trustees' decision. One is the fact that hospitals have, in recent years, become very big business and their efficient management has become increasingly important in maintaining a high level of service for the dollar spent. At the time the grant was made, it was estimated that the value of services annually rendered by the more than 6,800 hospitals in the United States exceeded $2 billion. Related to this consideration was another, namely, the growing scope of provisions for medical care in employment contracts between management and labor. Maximum efficiency in the administration of hospitals has a direct bearing upon the value of the provisions in such contracts. Still another motivating consideration was the interest which the Foundation has always had in increasing administrative efficiency in industry and in projects seeking to develop managerial talent and executive personnel. To extend this interest to the training of leadership in the hospital field, therefore, involved no radical departure from the established policies of the Foundation but merely the extension of a traditional interest.

Cornell University was chosen for this hospital project because of that institution's vigorous and imaginative leadership and because of the wealth of resources which it can contribute. As respects both the faculties and the various intellectual disciplines upon which a project such as this must draw, Cornell offers unrivalled possibilities. Not only does the institution possess the traditional disciplines in arts, sciences, engineering and business management, but it also possesses a variety of special schools and curricula which can contribute to the enrichment of an interdisciplinary curriculum such as would be required in a leading school of hospital management. Among such specialized curricular resources at Cornell are its schools of nutrition, hotel administration, industrial and labor relations, and agriculture. In addition, there are the various hospital and medical facilities in New York, especially those provided by the New York Hospital-Cornell Medical Center and by Cornell's affiliation with the Memorial Center and Sloan-Kettering Institute. The Ithaca campus is also strategically located for the study of the smaller community hospitals in the northern New York area. Still another important consideration in establishing a hospital-management program at Cornell is that University's integrated approach to administration—one of the few such approaches among universities in the United States. This is the approach provided by its Graduate School of Business and Public Administration in which, as the title suggests, the curriculum combines the administrative outlook of both industry and Government.

It is within this School that the new Institute of Hospital Administration has been established. In order to assure the Institute a truly interdisciplinary foundation and an opportunity to tap the resources available at Cornell, the Institute's governing board includes representatives from all of the relevant schools and colleges of the University. This board operates under the leadership of the Dean of the Graduate School of Business and Public Administration.

To establish liaison with the hospital field in general and the public at large, an Advisory Committee for the new Institute has also been established. This Committee is headed by Mr. Raymond P. Sloan. Other

members include Chester I. Barnard, former President of the Rockefeller Foundation; Ray E. Brown, Superintendent, University Clinics, University of Chicago; Dr. Robin C. Buerki, Executive Director of the Henry Ford Hospital; M. P. Catherwood, Dean, New York State School of Industrial and Labor Relations at Cornell; Dr. Edwin L. Crosby, Director of the American Hospital Association; Dr. Joseph C. Hinsey, Director, New York Hospital-Cornell Medical College; Dean E. Hugh Luckey, of the Cornell University Medical College; Dr. Jack Masur, Assistant Surgeon General; Director, Clinical Center, National Institutes of Health, United States Public Health Service; Howard B. Meek, Dean of the School of Hotel Administration at Cornell University; Dr. Norman S. Moore, Physician-in-Chief of Cornell's Infirmary and Clinic and Head of the Department of Clinical and Preventive Medicine at the Cornell Medical College; Dr. Henry Pratt, Director of the New York Hospital; Donald R. Young, President of the Russell Sage Foundation; and Richard D. Vanderwarker, Administrative Director, Memorial Center for Cancer and Allied Diseases.

Late in 1956, C. Stewart Sheppard, former Associate Dean of the Graduate School of Business Administration at New York University, became Dean of the Graduate School of Business and Public Administration at Cornell. Following his appointment, Mr. Frederic LeRocker was made the Director of the new Institute of Hospital Administration. Mr. LeRocker has the degree of Master of Hospital Administration from the University of Minnesota and has combined in his career both business experience and experience in hospital administration.

It is anticipated that the first students will enter the new Institute at Cornell in the Autumn of 1957. The number admitted annually will be limited to a dozen highly qualified individuals. Where necessary, students selected for the course will be aided with generous fellowship stipends provided in the Foundation's grant for the project. The program of study, which will require two years of residence on the campus at Ithaca and a year in an appropriate affiliated hospital, will lead to the degree of Master of Public Administration and Hospital Management or Master of Business Administration and Hospital Management.

Normally four principal areas will be developed in the student's curriculum. These are (1) general administrative practice, including work in organization and human relations; (2) specific management practices, especially finance, statistics, accounting, and related disciplines; (3) various specialties which relate to health care, including the patient-care needs of a community and the methods and objectives of various professional groups concerned with the operation of a modern hospital; and (4) application of administrative knowledge and practice to the situation of a particular hospital. Although specialized courses qualifying for staff positions may thus be included in the curriculum, the aim will be to train individuals broadly for the policy and supervisory responsibilities of hospital management and for the implied community responsibilities that arise from such positions.

In addition to the educational and training program, this hospital

C. Stewart Sheppard, newly appointed Dean of the Graduate School of Business and Public Administration, Cornell University.

Frederic C. LeRocker recently appointed Director of Sloan Institute of Hospital Administration at Cornell University.

C. Stewart Sheppard

Frederic C. LeRocker

project at Cornell will seek to stimulate a broad program of research into hospital problems. Indeed the Foundation is as much interested in this objective as in the educational possibilities of the project. Although administrative procedures and techniques, when soundly conceived, presumably have universal validity, their modification is often required in hospitals in the interests of good medical care. The nature and justification of such modifications is a legitimate subject of study. Various intramural problems of management in hospitals and their impact upon the costs of community medical care also pose important issues for the investigator. In developing research projects for the new Institute, priority will undoubtedly be given to such issues as these. Research will be coordinated under a director especially appointed for that purpose. A preliminary appraisal of the state of research activity in hospital administration and various allied fields has already been undertaken at Cornell and the resulting report will provide a guide in selecting research projects for development at the University during the next few years.

The Foundation's commitment in the amount of $750,000 is payable at the rate of $150,000 per year. Payments began in 1956 and will continue through 1960.

National Headquarters, Association of American Medical Colleges

EARLY IN 1955 the Foundation provided a portion of the funds required for the construction of a central headquarters building for the Association of American Medical Colleges. The Association had previously secured approximately $125,000 from other sources and had made arrangements with Northwestern University to locate the building near the University's campus at Evanston, Illinois. Proceeds of this Foundation's grant, amounting to $75,000, added to funds which the Association had already secured, supplied the minimum amount necessary to build the proposed new structure.

The building site in Evanston is on the southwest corner of Ridge Avenue and Central Street, approximately a half mile from the main campus of the University in the vicinity of the Evanston Hospital. The new structure will provide adequate accommodations for the Association's staff and establish a permanent headquarters in an academic setting in close proximity to the administrative headquarters of various related professional organizations. According to the plan submitted to this Foundation, the new building is so designed that extensions will be possible subsequently if additional space is required.

All medical schools in the United States are members of this Association, whose stated purpose is the advancement of medical education. Through various standing committees, it collects information, reviews existing practices in the field of medical education and, through its executive council, makes appropriate recommendations to its general membership. Still another activity is the collection and dissemination of

New Headquarters Building at Evanston, Illinois, of Association of American Medical Colleges.

information about the admission requirements of American medical schools. The Association also provides various services to its affiliated institutions and to medical students and publishes the *Journal of Medical Education*. Most of its operating funds are derived from the dues paid by its institutional and individual members.

As this *Report* goes to press, construction of the building has been completed and various offices of the Association have already been moved to the new quarters. The building itself was dedicated at appropriate ceremonies held in Evanston on February 10, 1957. In a resolution voted at the Association's Sixty-sixth Annual Meeting at Swampscott, Massachusetts, in October 1955, the membership expressed its appreciation of the Foundation's gift. The resolution stated that the new building will "significantly increase the potentialities of service by the Association to the member schools, to the American people and to medicine throughout the world."

Staff Grants and Special Projects

In addition to the grants made during 1955-1956 for the major projects described in the earlier pages of this *Report,* the Foundation made a number of grants for a variety of special projects. These grants are authorized under the terms of a special annual appropriation of the Trustees. They may not exceed $10,000 to any institutional recipient in any one year. Normally they are not renewed although, in one or two instances, such renewal has occurred. The recipients of these special grants are charitable, educational or welfare institutions of established reputation. In the majority of instances a grant of this nature is made with the understanding that it will be used to support a specific educational or research activity of the grantee. In such a case the grant's proceeds usually supplement funds for such an activity which have been derived from other sources than the Foundation. Occasionally a special grant is simply a contribution to the grantee organization to be applied to its normal budgetary outlays.

Organizations receiving these special grants from the Foundation during the biennium, 1955-56, are listed herewith. In each case, an attempt is made to identify the purpose for which the grant was made.

The American Heritage Foundation, New York 22, N. Y.: for general support of the Foundation's educational program . . . . . $ 5,000

Mr. Sloan with members of the Foreign Student Summer Project, Waldorf-Astoria, September 6, 1955.

American Institute of Mining and Metallurgical Engineers, Inc., New York 18, N. Y.: contribution to the Institute's Metals Branch Research Publication Fund . . . . $ 5,000

The American Museum of Immigration, New York 17, N. Y.: for support of the Museum's program $10,000

American National Red Cross, New York 16, N. Y.: contributions to the organization's special New England flood relief fund and its special fund for the relief of Hungarian emigrés $20,000

Berea College, Berea, Ky.: to finance acquisition of facilities and equipment in a new college building and for general developmental purposes $10,000

Boston University, Boston 15, Mass.: to provide stipend for special scholarship for a student in the University's College of Business Administration . . . . . $ 1,200

Citizens Committee for Reorganization of the Executive Branch of the Government, Inc. (Citizens Committee for The Hoover Report), New York 17, N. Y.: for general support $10,000

Citizens Research Council of Michigan, Detroit 26, Mich.: to support proposed investigation of certain trends in union-management relations in selected European countries $ 2,500

Columbia University, Graduate School of Business, New York 27, N. Y.: to finance a special research project on the place of the American corporation in the social structure . . $10,000

Columbia University, Graduate School of Business, New York 27, N. Y.: contribution to salary and development fund $15,000

Columbia University, Faculty of Medicine, New York 32, N. Y.: to make possible a continuation of the work supervised by Dr. J. Lowry Miller, in the Department of Dermatology, on the so-called treponemal immobilization test . . $ 8,000

The Conservation Foundation, New York 16, N. Y.: contributions for general support over a two-year period . $15,000

Cornell University, Ithaca, N. Y.: for a preliminary investigation of the nature and scope of a proposed program of research in economics, the investigation to be undertaken by the University's Graduate School of Business and Public Administration $10,000

Council on Foreign Relations, Inc., New York 21, N. Y.: contribution for general support $10,000

Crotched Mountain Foundation, Greenfield, N. H.: for the building and development fund of the Foundation . . $10,000

Darrow School, New Lebanon, N. Y.: contributions for the support of the School over a two-year period $20,000

De Pauw University, Greencastle, Ind.: for the development and publication of a manuscript relating to the teaching of economics $10,000

Thomas Alva Edison Foundation, Inc., New York 18, N. Y.: contributions for general support of the organization's program, especially for the conduct of its institutes on scientific personnel . . . . . $ 3,000

Farmers Federation Educational and Development Fund, Inc., Asheville, N. C.: contribution for the support of the research activities of the Federation . . . . . $ 5,000

Film Council of America, Evanston, Ill.: to assist the Council in creating and distributing its "Film Users' Guide" $ 5,000

Foreign Policy Association, Incorporated, New York 17, N. Y.: for general support . . . . . $ 5,000

The Foundation for Economic Education, Inc., Irvington-on-Hudson, N. Y.: for the support of the program of this institution; especially for its industrial fellowship program for college teachers $20,000

Freedoms Foundation, Valley Forge, Pa.: for general support over a two-year period $20,000

President and Fellows of Harvard College, Cambridge, Mass.: contribution to a fund to create "The John Lord O'Brian Professorship of Christian Religion" in the Harvard Divinity School . . . . . $ 5,000

International House, New York 27, N. Y.: contribution to support this institution's program for foreign students . $ 2,000

Joint Council on Economic Education, New York 36, N. Y.: for general support $10,000

The Legal Aid Society, New York 7, N. Y.: annual contributions for the support of activities of grantee $10,000

Lenox Hill Neighborhood Association, Inc., New York 21, N. Y.: for support of the Association's recreational and educational program . . . . . $ 2,500

Long Island Biological Association, Inc., Cold Spring Harbor, Long Island, N. Y.: to assist in financing the grantee's "Symposia on Quantitative Biology" held in June 1956 . . . . . $ 3,000

Massachusetts General Hospital, Boston 14, Mass.: contribution to fund for the construction of medical science building $10,000

National Board of the Young Women's Christian Association of the U. S. A., New York 22, N. Y.: contribution to the YWCA's Centennial Fund for expanding and strengthening the Association's program . . . . . $ 10,000

National Citizens Council for Better Schools, New York 16, N. Y.: contribution for general support $10,000

National Civil Service League, New York 16, N. Y.: to assist National Civil Service League in carrying forward its civil service awards program for federal employees . . . $10,000

The National Hospital for Speech Disorders, New York 3, N. Y.: for the purchase of special equipment for grantee's laboratories . . . . . $ 5,000

National Information Bureau, Inc., New York 17, N. Y.: contributions to operational expense of the Bureau for a two-year period . . . . . $ 1,500

National Municipal League, New York 21, N. Y.: for general support $10,000

New York City Cancer Committee of the American Cancer Society, Inc., New York 22, N. Y.: for the educational and other programs supported by the Committee $20,000

New York Times Hundred Neediest Cases, New York, N. Y.: contribution $10,000

New York University, New York 3, N. Y.: grants to finance printing and distribution of booklets on economics and for the support of the University's Institute of Public Affairs and Regional Studies . . . . . $ 8,000

New York University, New York 3, N. Y.: to support an investigation of certain economic theories relating to the effect of costs upon prices, the research to be conducted under the supervision of the University's Graduate School of Business Administration . . . . . $ 9,250

Northeastern University, Boston, Mass.: to finance experimental use of case materials in the instructional program in the undergraduate unit of the University's College of Business Administration $10,000

Parsons School of Design, New York 22, N. Y.: for general support $10,000

University of Pennsylvania, Philadelphia 4, Pa.: grant in support of a study of the University's resources and its general instructional program, the proceeds having been applied to the phase of the study dealing with the University's College of Engineering $10,000

St. Luke's Hospital, New York 25, N. Y.: to assist in equipping and supplying physiological and chemical laboratories and an animal surgery at the Hospital $10,000

Science Service, Washington 6, D. C.: grant to assist Science Service in maintaining and developing its various programs to stimulate interest in science on the part of the nation's youth $10,000

United Hospital Fund, New York 21, N. Y.: to finance institutes on hospital management for administrators of municipal hospitals in New York City . . . . . $ 6,000

USO Fund of New York, Inc., New York 4, N. Y.: for the support of the work of the United Service Organizations $ 2,000

Valley Forge Freedom Center, Valley Forge, Pa.: to defray part of the cost of printing and publishing a manuscript on economics . . . . . $ 3,000

Veterans of Foreign Wars of the United States, Washington 6, D. C.: contribution towards the charitable programs of the Veterans of Foreign Wars . . . . . $ 1,000

Wabash College, Crawfordsville, Ind.: contribution to the College's library development fund $10,000

Williston Academy, Easthampton, Mass.: grant in support of the development program of this institution . . . $10,000

Woods Hole Oceanographic Institution, Woods Hole, Mass.: contribution towards the cost of a motion picture designed to inform prospective college students about the science of oceanography . . . . . $ 5,000

History and General Policies of the Foundation

The Alfred P. Sloan Foundation, Inc. was established as a non-profit corporation under the laws of the State of Delaware on August 2, 1934. The certificate of incorporation clearly imposes restrictions upon the activities of the Foundation. Operations are confined to those of a religious, charitable, scientific, literary, or educational nature; individuals having a personal interest in the affairs of the Foundation are forbidden to receive any benefit from its operations; and no activities designed to influence legislation are permitted.

Within this restricted area considerable discretion is permitted in applying the Foundation's resources to charitable and related purposes. Grants, as well as other expenditures, may be made either from current income or from the capital funds of the Foundation. The Foundation may enter into contracts, employ staff personnel, establish offices and, in general, carry on all activities necessary or desirable properly to conduct its affairs.

On January 1, 1938 the Foundation's Trustees announced their intention to devote their organization's resources primarily to the field of American economic education and research. Adherence to this policy continued until 1945 when a grant of major proportions was made for research in cancer. As indicated earlier in this *Report,* certain other fields have been added since 1952; and, in the future, the Foundation intends to commit some of its funds to the newer fields as well as to those in which it has previously been active. These newer fields include promotion of research in the physical sciences and in ophthalmology. They also include support of a fairly extensive undergraduate scholarship program in American colleges and universities. Other possible areas in which grants may be made in the future are currently under study.

To finance a part of the grants in two of the areas identified above, namely, cancer and pure science, special funds have been established within the Foundation. The funds are respectively: the General Motors Dealers Appreciation Fund for Cancer and Medical Research and the Fund for Basic Research in the Physical Sciences. Grants in other areas will continue to be derived from appropriations made from the income and capital accounts of the Foundation's General Fund.

The Foundation acts as a grant-making agency. Occasionally it may finance certain surveys and special investigations for its own information; but it conducts no educational work on its own account; nor does it engage directly in research. Its grants are made to assist specific projects carried on by accredited educational and charitable institutions within the borders of the United States.

Commitments are normally made for a single year. They may, however, be made for a period of three years; and, in unusual cases, for an even longer period. At the end of each year, or at the end of the period for which the Foundation's commitment is to run, an accounting is made, either by the grantee or by the Foundation, and all unused funds are returned. Requests for renewal are considered far enough in advance of the expiration date of an existing commitment to assure uninterrupted progress of activities if a renewal should be voted; or to permit of orderly liquidation if the Foundation's Trustees should decide not to renew.

As suggested earlier, the Foundation considers its function to be that of assuming the risks of new enterprises which, because of their experimental character, would prove to be an unwarranted burden upon the regular administrative budgets of the sponsoring institutions. Hence, at the outset, the initial expenses of an acceptable project are absorbed and the necessary equipment is furnished. Although the Foundation makes no promise, implied or otherwise, to assume a financial obligation for a longer period of time than is specified in its original commitment, the Trustees occasionally do vote to renew existing proj-

ects. This is done only after a careful reexamination of the project by appropriate Foundation staff members and consultants and after a recommendation to the Trustees that continuation of support for an additional period is clearly desirable. A consideration which may influence the Trustees to extend a commitment is their desire to assure a project a fair opportunity to achieve the objectives originally set for it.

PROCEDURE IN APPLYING FOR A GRANT-IN-AID

The Foundation welcomes constructive criticism and suggestions. Qualified institutions in sympathy with the ideas set forth herein should feel free to submit to the Foundation projects which fall within the scope of the Foundation's fields of activity and fit in with its program. Conscientious attention and careful thought are given to all such communications.

Specific projects which are to be submitted for consideration should first be definitely formulated in a brief memorandum and the memorandum should be sent to the Foundation. In the memorandum the objectives of the project should be clearly stated, the proposed procedures outlined, and an estimate given of the probable expense involved. Routine is greatly facilitated by settling as much as possible by correspondence. Conferences and field investigations demanding, as they do, a considerable amount of time and expense, properly come last in the course of negotiations, and, in any case, will not be undertaken unless it has first been established that the proposed project falls within an area in which the Foundation has made grants in the past and that the Foundation has indicated a serious interest in the proposal.

List of Grants and Payments—1955-1956

On the following pages appears a schedule of Foundation commitments unpaid at December 31, 1954; grants authorized by the Foundation's Trustees during 1955-1956; payments on such grants for the two-year period ended December 31, 1956; and commitments existing at December 31, 1956.

Entrance to the Alfred P. Sloan Building; School of Industrial Management, Massachusetts Institute of Technology.

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1956

	PAID AT DECEMBER 31, 1954	AUTHORIZED 1955-1956	PAYMENTS 1955-1956	DUE AFTER DECEMBER 31, 1956
Albion College	10,480	$ 22,060	$ 8,060	$ 24,480
American Cancer Society		20,000	20,000	
The American Heritage Foundation		5,000	5,000	
American Institute of Mining and Metallurgical Engineers		5,000	5,000	
The American Museum of Immigration		10,000	10,000	
American Red Cross		20,000	20,000	
Amherst College	18,960	39,810	14,220	44,550
University of Arizona	50,000	50,000	100,000	
Association of American Colleges		45,000	30,000	15,000
Association of American Medical Colleges		75,000	75,000	
Association of the Bar of the City of New York Fund, Inc		21,500		21,500
Automotive Safety Foundation		69,000	69,000	
Berea College		10,000	10,000	
Boston University		1,200	1,200	
Peter Bent Brigham Hospital		80,000	20,000	60,000
The Brookings Institution	81,861		81,861	
Brown University		8,830	8,830	
California Institute of Technology	55,800	114,050	95,850	74,000
University of California	90,155	83,400	93,555	
Carnegie Institute of Technology	86,020	98,475	81,495	105,000
Case Institute of Technology		60,800	7,600	53,200
University of Chicago		9,925	9,925	
Citizens Committee for Reorganization of the Executive Branch of the Government, Inc.		10,000	10,000	
Citizens Research Council of Michigan		2,500	2,500	
Colby College		4,200	4,200	
Colgate University		12,500	12,500	
Columbia University		118,625	118,625	
The Conservation Foundation		15,000	15,000	
Cornell University	5,605	904,225	426,330	593,500

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1956
-CONTINUED-

	UNPAID AT DECEMBER 31, 1954	AUTHORIZED 1955-1956	PAYMENTS 1955-1956	DUE AFTER DECEMBER 31, 1956
Council for Financial Aid to Education	$ 50,000	$ 100,000	$ 100,000	$ 50,000
Council on Foreign Relations, Inc.		10,000	10,000	
Crotched Mountain Foundation		10,000	10,000	
Darrow School		20,000	20,000	
Dartmouth College	178,600	182,960	133,740	227,820
DePauw University		10,000	10,000	
Duke University		6,900	6,900	
Thomas Alva Edison Foundation, Inc.		3,000	3,000	
Farmers Federation Educational and Development Fund		5,000	5,000	
Film Council of America		5,000	5,000	
Foreign Policy Association, Incorporated		5,000	5,000	
The Foundation for Economic Education, Inc.		20,000	20,000	
Freedoms Foundation		20,000	20,000	
Georgia Institute of Technology		7,130	7,130	
Harvard University		10,361	10,361	
High Altitude Observatory of the University of Colorado		5,000	5,000	
Hunter College of the City of New York		10,000	10,000	
University of Illinois		120,008	70,008	50,000
University of Indiana		5,560	5,560	
The Institute for Advanced Study		27,907	27,907	
International House		2,000	2,000	
The Iran Foundation, Inc.		10,000	10,000	
The Johns Hopkins Hospital		60,000	40,000	20,000
The Johns Hopkins University		46,200	5,250	40,950
Joint Council on Economic Education		10,000	10,000	
University of Kansas		6,245	6,245	
Knox College		10,000	10,000	
The Legal Aid Society		10,000	10,000	
Lenox Hill Neighborhood Association, Inc.		2,500	2,500	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1956
—CONTINUED—

	UNPAID AT DECEMBER 31, 1954	AUTHORIZED 1955-1956	PAYMENTS 1955-1956	DUE AFTER DECEMBER 31, 1956
Long Island Biological Association, Inc.		$ 3,000	$ 3,000	
Manhattan Eye, Ear and Throat Hospital		10,000	10,000	
Massachusetts Eye and Ear Infirmary		19,462	19,462	
Massachusetts General Hospital		10,000	10,000	
Massachusetts Institute of Technology	$2,332,350	1,047,650	1,563,000	$1,817,000
Memorial Center for Cancer and Allied Diseases	350,000		350,000	
The Menninger Foundation		160,000	60,000	100,000
University of Michigan		7,700	7,700	
University of Minnesota		20,092	20,092	
University of Missouri		7,560	7,560	
National Academy of Sciences	7,000	14,040	21,040	
National Citizens Council for Better Schools		10,000	10,000	
National Civil Service League		10,000	10,000	
The National Hospital for Speech Disorders		5,000	5,000	
National Information Bureau, Inc.		1,500	1,500	
National Municipal League		10,000	10,000	
New York Eye and Ear Infirmary		15,000	15,000	
New York Times Hundred Neediest Cases		10,000	10,000	
New York University	34,500	351,401	295,901	90,000
Northeastern University		10,000	10,000	
Northwestern University		12,000	12,000	
Oberlin College	17,400	39,900	14,100	43,200
The Ophthalmological Foundation	5,000	20,000	20,000	5,000
Oregon State College		12,780	12,780	
Parsons School of Design		10,000	10,000	
Pennsylvania State University		5,400	5,400	
University of Pennsylvania		10,000	10,000	
Polytechnic Institute of Brooklyn		5,750	5,750	
Presbyterian Hospital—Institute of Ophthalmology		15,000	15,000	
Princeton University		23,018	23,018	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1956
—CONTD—

	UNPAID AT DECEMBER 31, 1954	AUTHORIZED 1955-1956	PAYMENTS 1955-1956	DUE AFTER DECEMBER 31, 1956
Queen's University		$ 3,063	$ 3,063	
Retina Foundation		7,500	7,500	
University of Rochester		23,280	23,280	
Rutgers University		13,500	13,500	
Saint Luke's Hospital		10,000	10,000	
Science Service		10,000	10,000	
Sloan-Kettering Institute for Cancer Research	2,030,000	816,690	846,690	$2,000,000
Southern Research Institute	112,500	250,000	137,500	225,000
Stanford University	71,300	128,500	92,850	106,950
Teleprograms Inc.		355,000	292,500	62,500
University of Toronto		8,000	8,000	
United Hospital Fund		6,000	6,000	
United Negro College Fund		10,000	10,000	
USO Fund of New York, Inc.		2,000	2,000	
Valley Forge Freedom Center		3,000	3,000	
Vassar College		5,000	5,000	
Veterans of Foreign Wars of the United States		1,000	1,000	
Medical College of Virginia		3,000	3,000	
University of Virginia		10,000	10,000	
Wabash College	11,200	32,400	18,400	25,200
Washington University		48,637	48,637	
University of Washington		3,600	3,600	
Williams College	18,600	43,500	14,850	47,250
Williston Academy		10,000	10,000	
University of Wisconsin		27,650	27,650	
Woods Hole Oceanographic Institution		5,000	5,000	
College of Wooster		25,000	25,000	
Young Women's Christian Association		10,000	10,000	
Miscellaneous payments for experimental projects		160,904	160,904	
Total	$5,649,331	$6,565,348	$6,312,579	$5,902,100

DISTRIBUTION OF THE FOUNDATION'S FUND
1937—1956

A Financial Review

Mr. and Mrs. Alfred P. Sloan, Jr. established the Foundation in 1934 with a gift of securities valued at $500,000. From 1934 to 1954 inclusive, Mr. and Mrs. Sloan and their affiliates contributed approximately $26,500,000 to the Foundation. During the two years covered by this *Report* principal funds were contributed to the Foundation by Mr. and Mrs. Sloan and New Castle Corporation and were received from the estate of Mrs. Sloan in the aggregate amount of $75,981,024.

These contributions by Mr. and Mrs. Sloan and their affiliates include all major gifts received by the Foundation with the exception of a contribution of approximately $1,500,000 made some years ago by the General Motors Dealers of the United States in appreciation of Mr. Sloan's services to them when he was Chief Executive Officer of General Motors Corporation. The proceeds of this gift were placed in a fund known as the "General Motors Dealers Appreciation Fund for Cancer and Medical Research." The history of that Fund is given in an earlier *Report* of the Foundation for 1947-1948.

The financial condition of the Foundation at December 31, 1956 and 1955 is shown in a comparative balance sheet on page 150. The investments shown in that exhibit are at market quotation values at the end of the respective years.

The net value of the assets of the Foundation at December 31, 1956 was divided among three reserve accounts as follows:

General Fund	$130,639,927
General Motors Dealers Appreciation Fund	5,826,694
Fund for Basic Research in the Physical Sciences	5,314,579
Total	$141,781,200

The Fund for Basic Research in the Physical Sciences mentioned above was created during 1955. It was established by an original gift of $1,630,964 from Mr. and Mrs. Sloan and supplemented by a gift of $879,510 from New Castle Corporation. Other gifts and transfers from the General Fund Reserve have brought the Fund to its present value. The purposes of the Fund are fully discussed on pages 39 to 43 of this *Report*.

Details of the Foundation income and expenses for the two years under review are given in an exhibit entitled "Income Account" on page 151. A summary of that exhibit for 1956 and 1955 follows:

	GENERAL FUND RESERVE	GENERAL MOTORS DEALERS APPRECIATION FUND RESERVE	FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES RESERVE
Investment income	$6,380,266	$452,503	$230,125
Other income	515,751	4,478	
Total income	$6,896,017	$456,981	$230,125
Grant payments	$5,164,911	$517,500	$630,168
Other expenses	553,550		135,130
Total disbursements	$5,718,461	$517,500	$765,298
Income (deficit) for the period	$1,177,556	($ 60,519)	($535,175)

An exhibit entitled "Summary of Fund Reserves Adjusted to Market Quotation Values" will be found on pages 152 to 154 of this *Report*. Changes, in addition to the operating results summarized in the preceding paragraph, were as follows:

	GENERAL FUND RESERVE	GENERAL MOTORS DEALERS APPRECIATION FUND RESERVE	FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES RESERVE
Gifts designated as principal	$70,516,101		$5,464,923
Realized appreciation on securities	5,059,738	$702,290	43,289
Total	$75,575,839	$702,290	$5,508,212

The details of the Foundation investments at December 31, 1956 are displayed on pages 155 to 160. The total of such investments at market quotation values as of that date was $145,789,220.

A summary of Foundation grants for the two years ended December 31, 1956 follows:

Grants outstanding at December 31, 1954	$ 5,649,331
Grants authorized January 1, 1955-December 31, 1956	6,565,348
Total	$12,214,679
Payments on authorized grants January 1, 1955-December 31, 1956	6,312,579
Grants outstanding at December 31, 1956	$ 5,902,100

BALANCE SHEET
(INVESTMENTS AT MARKET QUOTATION VALUES)
DECEMBER 31, 1956 AND 1955

	1956	1955
ASSETS		
CASH	$ 1,894,080	$ 531,524
INVESTMENTS:		
Fixed income securities	57,993,440	10,227,670
Marketable stocks	87,337,209	62,369,694
New Castle Corporation common stock —proportionate ownership of underlying securities at market quotation value and cash	458,571	4,584,231
TOTAL	$147,683,300	$77,713,119
FUND RESERVES		
GENERAL FUND:		
Grants authorized but not due	$ 5,677,100	$ 6,061,000
Net assets	130,639,927	62,367,948
TOTAL	$136,317,027	$68,428,948
GENERAL MOTORS DEALERS APPRECIATION FUND:		
Grants authorized but not due	$ 225,000	$ 260,000
Net assets	5,826,694	6,109,766
TOTAL	$ 6,051,694	$ 6,369,766
FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES:		
Net assets	$ 5,314,579	$ 2,914,405
TOTAL	$147,683,300	$77,713,119

NOTE 1: At December 31, 1956 the Foundation was committed for gifts for indefinite periods as follows:

To Sloan-Kettering Institute for Cancer Research, $400,000 per annum, cancelable on five years' notice. This obligation is included above in the amount of $2,000,000.

To Massachusetts Institute of Technology–Sloan Fellowship Project, $177,500 per annum, cancelable on three years' notice. This obligation is included above in the amount of $532,500.

To Dartmouth College, $35,000 per annum, cancelable on three years' notice. This obligation is included above in the amount of $105,000.

NOTE 2: Real estate and personal property acquired by the Foundation from the estate of Mrs. Sloan and having an aggregate appraised value for estate tax purposes of $1,068,945 are not included in the above balance sheet. Promptly upon their disposition the Foundation will record the cash proceeds from these assets as part of the General Fund Reserve.

INCOME ACCOUNT
FOR THE YEARS ENDED DECEMBER 31, 1956 AND 1955

	1956	1955
GENERAL FUND		
INCOME:		
Investment income	$3,635,498	$2,744,768
Refunds of unexpended grants	28,974	19,295
Other income	467,482	
Total	$4,131,954	$2,764,063
EXPENDITURES:		
Grants paid in support of sponsored projects	$2,596,545	$2,568,366
Administrative expenses	329,392	224,158
Total	$2,925,937	$2,792,524
NET INCOME (deficit) for the year	$1,206,017	($ 28,461)
GENERAL MOTORS DEALERS APPRECIATION FUND		
INCOME:		
Investment income	$ 199,872	$ 252,631
Gifts for current use	2,176	2,302
Total	$ 202,048	$ 254,933
EXPENDITURES:		
Grants paid in support of sponsored projects	$ 285,000	$ 232,500
NET INCOME (deficit) for the year	($ 82,952)	$ 22,433
FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES		
INCOME:		
Investment income	$ 129,898	$ 100,225
EXPENDITURES:		
Grants paid in support of sponsored projects	$ 411,569	$ 218,599
Administrative expenses	56,819	78,311
Total	$ 468,388	$ 296,910
(DEFICIT) for the year	($ 338,490)	($ 196,685)

SUMMARY OF FUND RESERVES
ADJUSTED TO MARKET QUOTATION VALUES
FOR THE YEARS ENDED DECEMBER 31, 1956 AND 1955

GENERAL FUND

	1956	1955
PRINCIPAL:		
Balance at beginning of year, book value	$ 42,603,919	$35,938,734
Gifts designated as principal	70,516,101	
Profit (loss) on disposal of securities	(3,032,858)	6,650,749
Market value of securities received in partial liquidation of New Castle Corporation in excess of book value of common stock surrendered	1,356,395	
Market value in excess of book value of securities transferred in payment of grant	174,108	
Market value of General Motors Corporation common stock in excess of (below) book value of GM Shares, Inc. Class A stock exchanged therefor	(103,092)	14,436
Balance at end of year, book value	$111,514,573	$42,603,919
Unrealized appreciation of proportionate share of investments	26,913,474	29,142,066
Balance at end of year, market quotation values	$138,428,047	$71,745,985
INCOME:		
(Deficit) at beginning of year	($ 3,317,037)	($ 3,288,576)
Net income (deficit) for the year	1,206,017	(28,461)
(Deficit) at end of year	($ 2,111,020)	($ 3,317,037)
Total	$136,317,027	$68,428,948
Authorized grants not due	5,677,100	6,061,000
UNALLOTTED FUND RESERVE AT END OF YEAR	$130,639,927	$62,367,948

SUMMARY OF FUND RESERVES
—CONTINUED—

GENERAL MOTORS DEALERS APPRECIATION FUND

	1956	1955
PRINCIPAL:		
Balance at beginning of year, book value	$ 3,023,017	$ 2,464,996
Profit on disposal of securities	10,814	556,680
Market value of securities received in partial liquidation of New Castle Corporation in excess of book value of common stock surrendered	125,400	
Market value in excess of book value of securities transferred in payment of grant	8,055	
Market value of General Motors Corporation common stock in excess of book value of GM Shares, Inc. Class A stock exchanged therefor		1,341
Balance at end of year, book value	$ 3,167,286	$ 3,023,017
Unrealized appreciation of proportionate share of investments	2,486,531	2,865,920
Balance at end of year, market quotation values	$ 5,653,817	$ 5,888,937
INCOME:		
Balance at beginning of year	$ 480,829	$ 458,396
Net income (deficit) for the year	(82,952)	22,433
Balance at end of year	$ 397,877	$ 480,829
Total	$ 6,051,694	$ 6,369,766
Authorized grants not due	225,000	260,000
UNALLOTTED FUND RESERVE AT END OF YEAR	$ 5,826,694	$ 6,109,766

SUMMARY OF FUND RESERVES
—CONTINUED—

FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES

	1956	1955
PRINCIPAL:		
Balance at beginning of year, book value	$ 2,509,185	
Gifts designated as principal	2,954,449	$ 2,510,474
Profit (loss) on disposal of securities	831	(1,289)
Market value of securities received in partial liquidation of New Castle Corporation in excess of book value of common stock surrendered	43,747	
Balance at end of year, book value	$ 5,508,212	$ 2,509,185
Unrealized appreciation of proportionate share of investments	341,542	601,905
Balance at end of year, market quotation values	$ 5,849,754	$ 3,111,090
INCOME:		
(Deficit) at beginning of year	($ 196,685)	
(Deficit) for the year	(338,490)	($ 196,685)
(Deficit) at end of year	($ 535,175)	($ 196,685)
UNALLOTTED FUND RESERVE AT END OF YEAR	$ 5,314,579	$ 2,914,405

INVESTMENTS
DECEMBER 31, 1956

	PRINCIPAL AMOUNT OR NUMBER OF SHARES	MARKET QUOTATION VALUE
FIXED INCOME SECURITIES:		
MATURITY BEYOND 5 YEARS:		
United States Treasury Bonds	$ 525,000	$ 463,688
American Telephone & Telegraph Company, 3⅞% Debenture Bonds – Due 7/1/90	1,000,000	952,500
Champion Paper & Fibre Co., 3¾% Debenture Bonds–Due 7/15/81	245,000	237,650
Columbia Gas System, Inc., Debenture "F" 3⅞% Bonds–Due 4/1/81	500,000	466,250
Commonwealth Edison Co., 1st Mortgage "R" 3½% Bonds–Due 6/1/86	300,000	280,500
Duke Power Co., 1st & Refunding 3⅝% Bonds–Due 5/1/86	500,000	480,000
Florida Power Corporation, 1st Mortgage 3⅞% Bonds–Due 7/1/86	300,000	279,000
General Electric Company, 3½% Debenture Bonds–Due 5/1/76	500,000	481,875
Illinois Power Co., 1st Mortgage 3¾% Bonds–Due 7/1/86	500,000	480,000
Northern Illinois Gas Co., 1st Mortgage 3¾% Bonds–Due 4/1/81	300,000	276,000
Potomac Electric Power Co., 1st Mortgage 3⅝% Bonds–Due 6/1/91	300,000	276,000
Southern California Edison Co., 1st & Refunding 3⅝% "G" Bonds – Due 4/15/81	500,000	482,500
Union Electric Company, 1st Mortgage 3¾% Bonds–Due 7/1/86	500,000	476,250
Wisconsin Electric Power Co., 1st Mortgage 3⅞% Bonds–Due 4/15/86	500,000	480,000
Total		$ 6,112,213

INVESTMENTS

DECEMBER 31, 1956

–CONTINUED–

	PRINCIPAL AMOUNT OR NUMBER OF SHARES	MARKET QUOTATION VALUE
FIXED INCOME SECURITIES *(continued)*:		
MATURITY 2 TO 5 YEARS:		
United States Treasury Bonds	$ 100,000	$ 97,500
General Motors Acceptance Corporation:		
3% Debenture Bonds–Due 4/1/60	1,500,000	1,436,250
3⅞% Debenture Bonds–Due 9/15/61	2,000,000	1,990,000
Total		$ 3,523,750
MATURITY UNDER 2 YEARS:		
United States Treasury Bonds, Notes and Certificates	$12,500,000	$ 12,484,062
Obligations of Instrumentalities Created by The United States Government	31,000,000	30,944,527
General Motors Acceptance Corporation:		
4% Debenture Bonds–Due 7/1/58	100,000	100,000
3-3/16% Note–Due 11/15/57	1,000,000	936,774
Commercial Investment Trust Incorporated:		
3¼% Note–Due 4/22/57	1,500,000	1,450,708
3⅛% Note–Due 2/4/57	2,500,000	2,441,406
Total		$ 48,357,477
Total Fixed Income Securities		$ 57,993,440
STOCKS–COMMON OR CAPITAL:		
Allied Chemical & Dye Corporation	5,974	$ 580,225
Allied Stores Corporation	2,000	86,750
Aluminium Ltd.	4,000	480,000
Aluminum Company of America	5,712	526,218
American Airlines, Inc.	3,512	82,093
American Cyanamid Co.	5,679	451,480
American Gas and Electric Company	4,590	170,978
American Stores Company	2,205	108,872
American Telephone & Telegraph Company	33,000	5,655,375
American Viscose Corporation	2,500	87,813

INVESTMENTS

DECEMBER 31, 1956

–CONTINUED–

	PRINCIPAL AMOUNT OR NUMBER OF SHARES	MARKET QUOTATION VALUE
STOCKS–COMMON OR CAPITAL *(continued)*:		
Armco Steel Corporation	3,700	$ 242,350
Atlantic City Electric Company	1,100	29,975
Baltimore Gas and Electric Company	3,000	97,500
Bankers Trust Company	2,000	127,250
Bethlehem Steel Corporation	4,000	794,000
Caterpillar Tractor Co.	3,866	346,973
Central and South West Corporation	2,000	69,750
Champion Paper & Fibre Co.	4,500	156,375
The Chase Manhattan Bank	4,400	219,450
Chemical Corn Exchange Bank	2,475	116,016
The Cincinnati Gas and Electric Company	2,150	56,706
Columbus and Southern Ohio Electric Company	3,000	85,875
Commonwealth Edison Co.	2,133	83,454
Consolidated Natural Gas Company	2,000	82,500
Consumers Power Company	3,150	144,900
Continental Can Company, Inc.	13,000	619,125
Continental Insurance Co.	1,250	57,500
Continental Oil Company	2,239	283,233
Corn Products Refining Company	4,800	142,200
Corning Glass Works	4,565	318,409
Crown Zellerbach Corp.	5,200	276,900
Cutler-Hammer, Inc.	3,600	227,700
Dayton Power and Light Company	4,000	196,000
The Detroit Edison Company	2,000	76,000
The Dow Chemical Company	20,850	1,399,556
E. I. du Pont de Nemours & Company	2,690	518,497
Eastern Air Lines, Inc.	4,222	210,084
Eastman Kodak Company	3,325	291,769
First National City Bank of New York	2,000	135,750
General Electric Company	16,978	1,022,925
General Foods Corporation	5,258	228,723

INVESTMENTS

DECEMBER 31, 1956

–CONTINUED–

	PRINCIPAL AMOUNT OR NUMBER OF SHARES	MARKET QUOTATION VALUE
STOCKS–COMMON OR CAPITAL *(continued)*:		
General Motors Corporation	944,350	$ 41,551,400
GM Shares, Inc.–Class A	2,140	564,960
Guaranty Trust Company of New York	2,000	171,500
Gulf Oil Corporation	7,017	869,249
Halliburton Oil Well Cementing Co.	6,000	534,000
Hercules Powder Company voting	6,693	263,537
Houston Lighting & Power Co.	743	36,964
Industrial Rayon Corporation	1,000	36,000
Ingersoll-Rand Co.	4,000	340,000
International Business Machines Corporation	4,196	2,265,840
The International Nickel Company of Canada, Limited	3,000	317,250
International Paper Company	5,460	573,384
Irving Trust Company	3,000	100,875
Johns-Manville Corporation	13,500	661,500
Kansas City Power & Light Company	2,200	86,075
Kennecott Copper Corporation	20,247	2,584,023
Lehigh Portland Cement Co.	11,100	502,275
Lone Star Gas Company	2,000	68,250
Merck & Co., Inc.	10,600	331,250
Monsanto Chemical Company	19,753	720,996
J. P. Morgan & Co. Incorporated	2,629	938,553
National Bank of Detroit	220	13,420
The National Cash Register Company	11,445	589,418
National Fuel Gas Company	3,000	57,750
National Lead Company	11,037	1,219,635
New Castle Corporation	27	458,571
New York State Electric & Gas Corporation	4,400	160,600
Niagara Mohawk Power Corporation	3,000	91,125
Northern States Power Company.	3,000	51,375
Ohio Edison Co.	2,000	100,000

INVESTMENTS

DECEMBER 31, 1956

–CONTINUED–

	PRINCIPAL AMOUNT OR NUMBER OF SHARES	MARKET QUOTATION VALUE
STOCKS–COMMON OR CAPITAL *(continued)*:		
Oklahoma Gas and Electric Company	3,300	$ 127,050
Olin Mathieson Chemical Corporation	3,000	148,125
Owens-Illinois Glass Co.	4,000	250,500
Pacific Gas and Electric Company	4,000	198,000
Panhandle Eastern Pipe Line Company	8,412	441,630
Pennsylvania Power & Light Company	4,000	176,500
Chas. Pfizer & Co., Inc.	5,342	264,429
Phillips Petroleum Company	20,506	1,091,945
Pittsburgh Plate Glass Co.	2,117	176,240
Potomac Electric Power Company	3,000	64,500
The Procter & Gamble Company	4,032	204,624
Public Service Company of Colorado	2,200	87,450
Public Service Company of Indiana, Inc.	2,000	74,750
Public Service Electric and Gas Company	5,000	157,500
Puget Sound Power & Light Co.	6,100	160,125
Radio Corporation of America	3,512	124,237
Richfield Oil Corporation	3,132	211,410
San Diego Gas & Electric Company	2,000	42,000
Sears, Roebuck and Co.	25,538	731,050
Shell Oil Company	9,414	847,260
Socony Mobil Oil Company, Inc.	7,401	407,055
Southern California Edison Company	5,000	227,500
Square D Company	4,000	118,000
Standard Oil Company (California)	1,102	54,273
Standard Oil Company (Indiana)	11,500	714,438
Standard Oil Company (New Jersey)	51,102	3,002,242
Sterling Drug, Inc.	2,000	105,500
The Texas Company	13,070	782,566
Texas Utilities Co.	546	21,908
Thompson Products, Inc.	7,000	518,000
Union Bag-Camp Paper Corporation	5,184	175,608
Union Carbide and Carbon Company	8,576	992,672

INVESTMENTS

DECEMBER 31, 1956

—CONTINUED—

	PRINCIPAL AMOUNT OR NUMBER OF SHARES	MARKET QUOTATION VALUE
STOCKS—COMMON OR CAPITAL *(continued)*:		
Union Electric Company	3,000	$ 79,125
United Air Lines, Inc.	2,369	101,275
United Carbon Company	2,119	145,416
United States Gypsum Co.	2,323	131,540
United States Steel Corporation	10,000	735,000
Virginia Electric and Power Company	4,200	185,325
The Washington Water Power Company	2,000	72,000
The West Penn Electric Company	8,000	214,000
Westinghouse Electric Corporation	3,865	222,238
Wisconsin Electric Power Company	2,000	63,750
Total Stocks		$ 87,795,780

SUMMARY

Total Fixed Income Securities	$57,993,440
Total Stocks	87,795,780
TOTAL INVESTMENTS	$145,789,220

HASKINS & SELLS
CERTIFIED PUBLIC ACCOUNTANTS

67 BROAD STREET
NEW YORK 4, N. Y.

March 6, 1957

ALFRED P. SLOAN FOUNDATION, INC.:

We have examined the balance sheet of Alfred P. Sloan Foundation, Inc. as of December 31, 1956 and 1955 and the related income account and summary of fund reserves adjusted to market quotation values for the two years then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In accordance with the policy of the Foundation, no effect has been given in the accompanying statements to income accrued but not due at December 31, 1956.

In our opinion, with the explanation in the preceding paragraph, the accompanying balance sheet, income account and summary of fund reserves adjusted to market quotation values present fairly the financial position of the Foundation at December 31, 1956 and 1955 and the results of its operations for the two years then ended, in conformity with generally accepted accounting principles consistently applied.

HASKINS & SELLS

REPORT 57-58

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—CONTINUED—

MEMBERS OF THE BOARD OF TRUSTEES

[1]Elected October 2, 1958.
[2]Retired as President of Bell Telephone Laboratories, March 1, 1959.
[3]On leave to serve as special assistant to President Eisenhower.

MEMBERS OF THE BOARD OF TRUSTEES
—CONTINUED—

JOHN L. PRATT[4]
Former Vice President, General Motors Corporation; Engineer and Philanthropist

LAURANCE S. ROCKEFELLER
Chairman of the Board, Rockefeller Bros., Inc.; Chairman of the Executive Committee, Memorial Center for Cancer and Allied Diseases

RAYMOND P. SLOAN
Vice President, Alfred P. Sloan Foundation

WARREN WEAVER
Vice President for the Natural and Medical Sciences, The Rockefeller Foundation

GEORGE WHITNEY
Director and Former Chairman, J. P. Morgan & Co. Incorporated

ARNOLD J. ZURCHER
Vice President and Executive Director, Alfred P. Sloan Foundation

[4]Resigned as Trustee, November 15, 1958.

COMMITTEES OF THE BOARD OF TRUSTEES

EXECUTIVE COMMITTEE

MR. ALFRED P. SLOAN, JR., *Chairman*
MR. RAYMOND P. SLOAN
MR. BRADLEY
MR. HOWARD
DR. ZURCHER

INVESTMENT COMMITTEE

MR. BRADLEY, *Chairman*
MR. ALFRED P. SLOAN, JR.
MR. HOWARD
DR. KILLIAN
MR. ROCKEFELLER

TRUSTEES COMMITTEE ON BASIC SCIENCE PROGRAM

MR. HOWARD, *Chairman*
DR. KELLY
DR. WEAVER

SCHOLARSHIP COMMITTEE

MR. ALFRED P. SLOAN, JR., *Chairman*
MR. BRADLEY
DR. ZURCHER

OFFICERS AND STAFF OF THE FOUNDATION

Alfred P. Sloan, Jr.	*President*
Albert Bradley	*Chairman of the Board*
Raymond P. Sloan	*Vice President*
Arnold J. Zurcher	*Vice President and Executive Director*
James F. Kenney	*Secretary and Treasurer*
Cecile Stierli	*Assistant Secretary*
Claire Armstrong	*Assistant Treasurer*
Richard T. Arnold	*Administrator of the Basic Science Program*
Joseph Allen	*Administrator of the Alfred P. Sloan National Scholarship Program*
Muriel P. Gaines	*Administrative Assistant*

PREFACE

The Alfred P. Sloan Foundaton administers a private fund for the benefit of the public. It accordingly recognizes the responsibility of making periodic reports to the public on the management of this fund. This *Report* has been prepared by direction of the Foundation's Trustees for the biennium 1957-1958.

Activity of the Foundation is confined to providing financial support for approved projects administered by educational, scientific and charitable institutions. The Foundation does not itself engage in educational or research activity or conduct projects of any sort.

In the following pages, recipients of the Foundation's grants are identified; so also are the sums involved and the nature of the various undertakings which the grants have financed. In addition, an attempt is made to explain the principles and policies which are observed by the Foundation's administrative staff and the Trustees in deciding which of the hundreds of worthy projects, annually brought to their attention, shall receive favorable consideration.

Foundations and Educational Needs

IT HAS BEEN a tradition among private foundations comparable to the Alfred P. Sloan Foundation that the needs of education, and especially of higher education, be given special consideration. It is a tradition that finds its explanation and its justification in the high value which society properly attributes to education's contribution to our culture. Our schools, colleges and universities conserve the best in our civilization and communicate that best to each succeeding generation; they select and train specialists for the arts, sciences and professions, and identify capacity for leadership; and they carry on the basic research that advances the frontiers of man's knowledge of himself and his universe. Institutions that render such services undoubtedly have a special claim upon private philanthropy; at any rate, it is hardly surprising that in committing their funds, foundations have long acknowledged that educational institutions should be accorded a certain priority over other possible claimants on such funds.

The tradition of giving special consideration to the needs of education has also influenced this Foundation's policies. During the quarter century of its existence, it has repeatedly demonstrated its special concern for the welfare of our colleges, universities and other educational institutions. Especially has this concern been manifested during the years following the end of World War II. These have been years when certain problems of education, and especially of higher education, have thrust themselves upon the consciousness of the public with special urgency. They have been years during which the financial problems of education have been immensely complex and demanding, and when it became obvious that the privately-supported sector of our educational system would experience increasing difficulty in finding the resources to maintain the quality of its services and finance necessary improvement and expansion of facilities. It was this problem of ways and means to meet existing and future financial needs of higher education that particularly enlisted the interest of this Foundation in the post-war years,

an interest which was outlined in some detail during the summer of 1951, when the founder-president of the Foundation, Mr. Alfred P. Sloan, Jr., contributed a special article on the subject to *Collier's*.

At the time, Mr. Sloan was Chairman of the Board of the General Motors Corporation; and his view of the problem was that of a leading industrialist rather than of a Foundation executive. In his article, Mr. Sloan pointed out that during the decade of the 1940's, educational costs had quadrupled and that more than one fourth of the nation's universities, colleges and technological institutions had been showing deficits in their operating accounts. These budgetary deficits, moreover, were becoming greater with each passing year. It was Mr. Sloan's opinion that private educational institutions had been caught in an economic "squeeze" brought about, in part, by the persistent inflation of the times and, in part, by the relative decrease in returns from endowments and the drying up of traditional sources of financial support.

Mr. Sloan expressed a hope, one shared by many distinguished business associates and industrial leaders, that business enterprise would assume greater responsibility for the financing of education and raise appreciably the level of its contribution. He felt that corporate support was the only relatively untapped source of private financing for education, and that unless business became a more generous source of funds for education, the financial problem of our colleges and universities would only be solved by resort to governmental assistance on a massive scale. His opinions, shared by other distinguished industrial leaders, led eventually to the establishment of the Council for Financial Aid to Education. Since its creation, this agency, as subsequent pages of this *Report* will indicate, has been receiving the support of this Foundation and at least three other comparable organizations.

Concurrently with this effort to encourage more financial support for education from industry, this Foundation has also made extensive direct financial contributions to higher education. One of these direct contributions has assumed the form of a baccalaureate scholarship program. For this program the Foundation will shortly undertake a continuing commitment of approximately $2 million. Various fellowship programs have also been developed during this same period, some of which are quite extensive. The most important is a fellowship program for younger scientists on which the

Foundation will shortly be expending an average of $1 million annually. On a subsequent page it is estimated that, through these programs, the Foundation is currently supplying scholarships to some 450 students and fellowships for somewhat more than that number of mature scholars. By means of generous overhead provisions to the educational institutions involved, or by means of some equivalent allowance and the occasional financing of necessary laboratory equipment, the Foundation has sought to make certain that its scholarship and fellowship programs do not aggravate the financial problems of a particular institution but, in a small way, contribute to the solution of those problems.

Various other programs in the educational field have received support from the Foundation during the past two years. Contributions have been made to assist in solving the shortage of qualified secondary school teachers in science and mathematics; to improve scientific curricula in secondary schools; to create appropriate visual materials for science courses; and to support experiments or research programs aiming at better selection and placement of students in our colleges. As this *Report* goes to press, the Foundation is giving serious consideration to the establishment of a system of incentive awards for college and university faculties.

The direct aid which this Foundation has been giving educational institutions during the past few years is similar to that given by other private foundations. Fellowship and scholarship programs and grants for various kinds of experimental and research projects have perhaps become the characteristic forms of foundation giving to education. They are contributions which educational institutions unquestionably welcome since the needs of such institutions are sufficiently diverse to permit them to make effective use of grants for any legitimate educational or research purpose.

At the same time, educational administrators often raise the question whether foundations might not supplement this specialized kind of giving with support of a more fundamental character and make contributions to the operational costs of colleges and universities and for capital expenditures and general developmental purposes. The great need of the colleges and the universities, it is pointed out, is for unrestricted grants to be spent at the discretion of the institution. As the level of need for capital and developmental purposes among colleges and universities rises during the coming decade, it

may be expected that this suggestion will be ventured with more and more emphasis and with increasing frequency. The suggestion will be ventured, moreover, along with a reminder that, not so long ago, private foundations were relatively much more generous than they are today in financing capital improvements and expansion among educational institutions and in supplying funds for general educational purposes.

Undoubtedly the question whether foundations should persist in their present policy of supporting projects and special training and research activities, or move toward a policy of more direct support, is one which will continue to engender considerable discussion. There are educational leaders who, like the late Dr. Karl T. Compton of the Massachusetts Institute of Technology, feel that the private foundations should at least review this whole matter, and having reviewed it, perhaps develop some compromise between present policies and the older policy of making grants for capital and developmental purposes. In the report entitled *Nature and Needs of Higher Education,* issued in 1952 by the Commission on Financing Higher Education, it is suggested that, particularly in the case of the private colleges, it might be in order for foundations to return to an earlier policy of offering so-called "matching grants" when such institutions seek to improve their work and their plant. In this same report it is hopefully suggested that the growth of new foundations in recent years, and the consequent enlargement of the total assets of this class of givers, may encourage some foundations, at least, to depart from the existing dominant pattern of giving and adopt a policy of providing more direct and unrestricted assistance to higher education.[1]

In all this discussion what remains rather obvious to the foundations is that the direct needs of colleges and universities for developmental and operating purposes is a need that is measured in billions of dollars whereas the income of private foundations, including the income of even the very largest, is measured in millions of dollars. It is likely, moreover, that this disparity between foundation resources and the needs of higher education will widen during the next decade as our educational system seeks to meet the challenge of providing an opportunity for the unprecedentedly large number of students who will be seeking admission. It is therefore highly

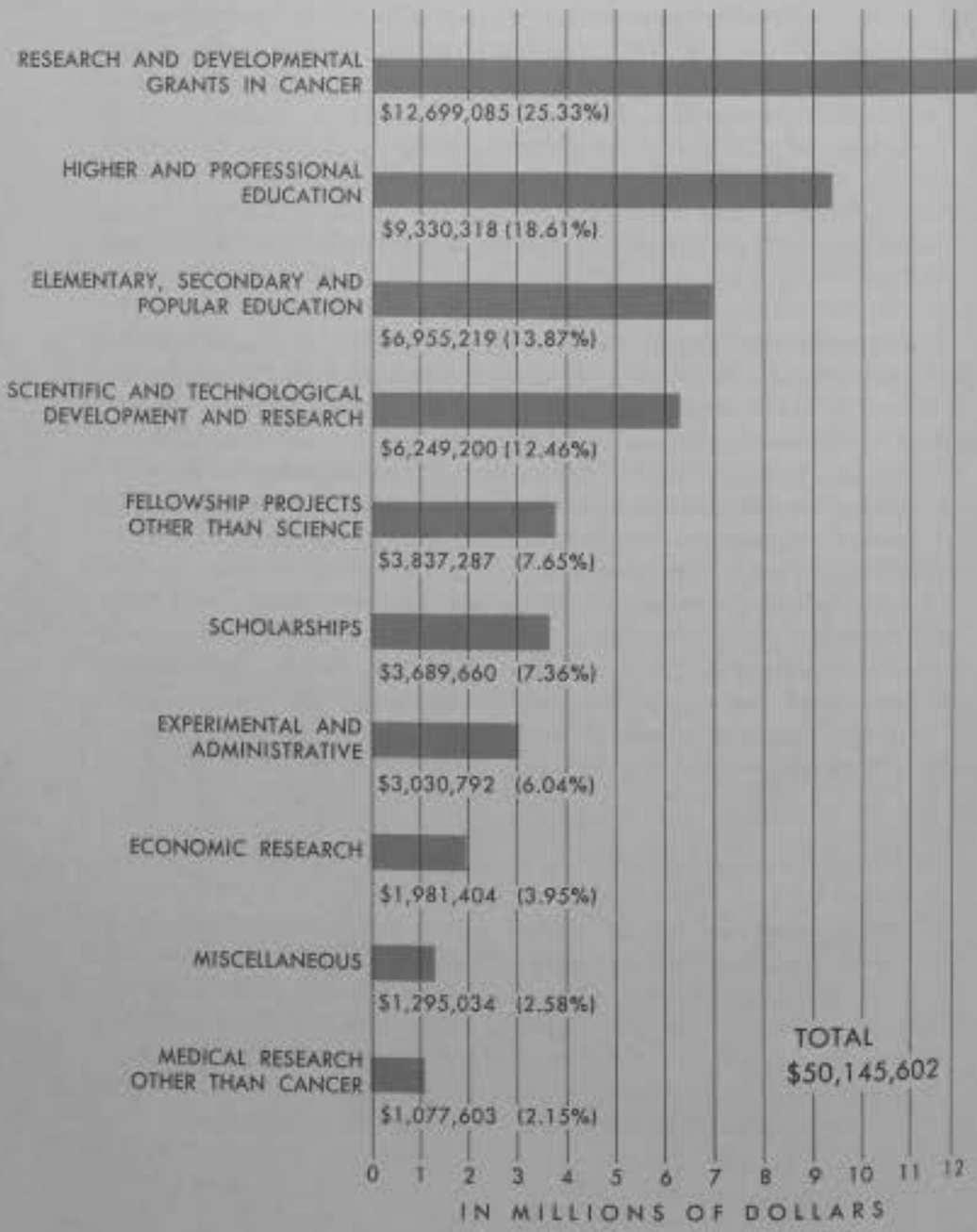
[1]See report of the Commission on Financing Higher Education (Columbia University Press, New York, 1952), p. 183.

unlikely that private foundations, including even foundations of the size of this one, can undertake any major responsibility for the ordinary operational and developmental needs of higher education. For such funds, colleges and universities, if not supported by public appropriations, must continue to rely upon their students, alumni, individual donors of various sorts, and on business and other institutions interested in lending support. At the same time they will have to make every effort to maximize the efficiency of their plants and the services which they render. Such at least is the view of this Foundation which has made developmental grants only in the most exceptional circumstances.

At the same time it would undoubtedly be in order for foundations and representatives of education to establish somewhat closer and more effective means of consulting with one another in determining the most efficient use of foundation funds in the educational area. In this connection, we might quote with approval a passage from the same report of the Commission on Financing Higher Education to which reference was made earlier. The author of that report notes that foundations and educational institutions are in fact partners in the advancement of education and research. He then makes the following observation: "If the staffs of foundations viewed themselves as collaborators with universities and colleges in the improvement of education and research, and if the foundation staffs planned together with the institutions the way in which both could use their resources more effectively, significant contributions could be made to pioneering and to the advancement of the ends both seek."[1]

[1]See report cited earlier, p. 184.

DISTRIBUTION OF THE FOUNDATION'S FUND 1937-1958



Review of Operations, 1957-1958

No MAJOR CHANGES occurred in the general grant-making policies of the Foundation during the biennium reviewed in this *Report*. Essentially the same areas of operations have received support as in former years. These are chiefly cancer and certain limited fields of medical research, scientific research and education, management training and development, various activities connected with schools and colleges, popular education, and economic education and research.

At the same time, the level of giving rose appreciably in the case of certain of these areas. As already indicated, this was especially true of grants in support of higher education and of scientific research in the universities. Between January 1, 1957 and December 31, 1958, approximately $4.04 million or almost 30 per cent of total commitments went for projects related to higher education. In that same period, outlays for scientific and technical developments and scientific research reached a level of $3.32 million or 24 per cent of total commitments.

In general, concentration of funds upon projects of considerable magnitude has continued to be a prime policy criterion in the Trustees' distribution of the Foundation's income. This policy has been observed both because it makes for more effective philanthropy and because it is administratively desirable. Occasionally, however, the Foundation has made grants where the financial needs of the project are quite modest. This has been done in cases where the Trustees are assured that, despite the rather limited sums committed, the project is capable of realizing its objective. In the case of such grants, the legal recipient is usually an institution – normally a university –

which is already receiving considerable support from the Foundation for other approved projects of major scope. Occasionally, too, the Foundation has contributed limited amounts to organizations that have well established programs of service to the community. Such organizations usually serve a national constituency as opposed to a local one. It is the view of the Trustees that it is appropriate for a Foundation like this one to distribute a small portion of the income at their disposal as contributions of this nature.

It is worthy of note that, as a result of policies currently being pursued, much of the support of the Foundation, given nominally to educational and comparable institutions, ultimately takes the form of scholarships and fellowships. The scholarships embrace the entire spectrum of the undergraduate curriculum. Holders of fellowships under Foundation grants may be found in all of the physical sciences and mathematics and in various areas of medicine, business management, hospital administration, and other specialties. Although it is difficult to compute the total number of holders of stipends under Foundation-supported scholarship and fellowship programs, it is a reasonable assumption that the number at the end of 1958 was in the neighborhood of one thousand. Such emphasis upon aids to individuals is an earnest of the Trustees' conviction that one of the more effective forms of investment of philanthropic funds is the investment made in the education and development of young people of serious purpose and high talent.

New commitments made during 1957 totalled $5.32 million; during 1958, they totalled $8.4 million. Hence for the two years under review, new commitments amounted to $13.72 million. Foundation income from all sources for the biennium totalled $12.15 million. Payments made on existing obligations during 1957 totalled $3.57 million and during 1958, $5.78 million, or total payments of $9.35 million. If we include Foundation administrative expenses and the cost of several experimental projects, total expenditures for the biennium reached $10.37 million. As indicated on later pages of the *Report,* obligations of the Foundation as of December 31, 1958, totalled $10.175 million, such obligations consisting exclusively of commitments made to grantees.

Between 1937 when the Foundation became active and December 31, 1958, grants (including administrative expenditures of the Foundation itself)

have totalled $50.15 million. This exceeds Foundation income for this same period by about $12.8 million, this deficit being in part an invasion of capital and in part a charge against future income. Commitments have thus averaged about $2.3 million per annum. The average annual volume of grants, during the six years prior to December 31, 1958, has been $4.7 million. Of the $50 million committed by the Foundation since 1937, somewhat more than a fourth went into research and developmental grants in cancer. Approximately 32 per cent of the total was devoted to education, including higher and professional education and what has been classified as elementary, secondary and popular education. Scientific and engineering development and research have accounted for somewhat over 12 per cent of the total and fellowship projects other than science fellowships have accounted for about 7½ per cent. Somewhat over seven per cent has been directed to the support of various scholarship programs including especially the recently-established Alfred P. Sloan National Scholarship Program. Medical research other than research in cancer accounts for a little more than two per cent of the total and economic research accounts for about four per cent.

As noted in the biennial *Report* issued in 1956,[1] an appreciable expansion took place between 1955 and 1956 in the value of the Foundation's assets. These assets increased in market value from approximately $60 million in 1954 to $147.68 million at December 31, 1956. This increase, amounting to somewhat more than $87 million, was due in part to contributions from Mr. Alfred P. Sloan, Jr., from the estate of Mrs. Sloan and from their affiliates. Additional contributions during the biennium under review and appreciations in value of the Foundation's portfolio have increased the gross value of the assets at December 31, 1958 to $172.85 million. About $40 million of the portfolio consisted of fixed-income securities and about $133 million consisted of equity stocks. Cash and other assets at December 31, 1958 amounted to $2.7 million.

Besides its General Fund Reserve, which is the basic capital fund of the Foundation, there are also two special funds, one known as the General Motors Dealers Appreciation Fund for Cancer and Medical Research and the other, the Fund for Basic Research in the Physical Sciences. The first of these funds came to the Foundation in September 1948 as the result of a generous gift made by General Motors dealers throughout the United States.

[1]See p. 147

It was given in honor of Mr. Sloan in appreciation of his services to the dealers at the time he was Chief Executive Officer of the General Motors Corporation. The fund, originally valued at $1.5 million, has appreciated in value and, at the present time, totals approximately $7.21 million at market. In accordance with the terms of the gift made to the Foundation, both the principal and the income of this fund may be devoted to cancer and medical research. Much of the income has been devoted to special research projects at the Sloan-Kettering Institute and affiliated organizations.

CHANGES IN THE BOARD OF TRUSTEES

Certain changes have taken place in the composition of the Foundation's Board of Trustees during the biennium. The resignation of Mr. Harry E. Ward was accepted with regret at a regular meeting of the Board held on May 2, 1957. Mr. Ward was elected Trustee of the Foundation on July 18, 1938 and had served continuously since that date. Mr. John L. Pratt, another member who had been elected to the Board at the same time as Mr. Ward, also tendered his resignation on November 15, 1958. Mr. Pratt brought to his rôle as Foundation Trustee highly relevant experience derived from his own considerable personal philanthropies and from his service on the board of various educational institutions, including The Johns Hopkins University, the Brookings Institution and the Sloan-Kettering Institute for Cancer Research. Mr. Pratt's resignation was accepted with regret at a regular meeting of the Board held January 9, 1959.

On October 2, 1958 the Board elected to its membership Mr. Devereux C. Josephs, Chairman of the Board of the New York Life Insurance Company. Mr. Josephs has long been active in financial affairs and in organizations dedicated to education and the public welfare. He is a former president of the Carnegie Corporation of New York and of the Teachers Insurance and Annuity Association. Between 1956 and 1957 he served as Chairman of the President's Committee for Education Beyond the High School. Reports prepared by this body have been of considerable influence in shaping the nation's future educational policy. Mr. Josephs also serves as trustee of a number of outstanding educational and cultural institutions including The Johns Hopkins University, the Metropolitan Museum of Art, and the New York Public Library.

Changes in the membership of the Board of Trustees and special public responsibilities taken on by certain members of the Board have required changes in the membership of certain of its committees. As constituted at the end of 1958, the Executive Committee of the Board of Trustees consisted of Mr. Alfred P. Sloan, Jr., who serves as Chairman, and the following additional members: Mr. Albert Bradley, Mr. Raymond P. Sloan, Mr. Frank A. Howard, and Dr. Arnold J. Zurcher. Because of Dr. James R. Killian's special assignment as Science Advisor to the President of the United States, he resigned his membership on the Committee on the Basic Science Program, his place having been taken by Dr. Warren Weaver. Mr. Howard continues as Chairman of this Committee, the other member being Dr. Mervin J. Kelly. The Trustees' Investment Committee consists of Mr. Bradley as Chairman and the following additional members: Mr. Laurance Rockefeller, Dr. Killian, Mr. Howard and Mr. Alfred P. Sloan, Jr. The Trustees' Committee on Scholarships and Fellowships consists of Mr. Alfred P. Sloan, Jr., Chairman, and Mr. Bradley and Dr. Zurcher.

New Foundation Trustee, Devereux C. Josephs; Chairman of the Board of Trustees of the Foundation, Albert Bradley.

DEVEREUX C. JOSEPHS

ALBERT BRADLEY

Dr. Warren Weaver joined the Board of Trustees of the Foundation in September 1956. It was understood at that time that eventually Dr. Weaver would also assume certain staff duties in addition to his service on the Foundation's governing body and his informal service as Foundation advisor in matters pertaining to the natural sciences and related subject areas. Dr. Weaver has agreed that, as of July 1, 1959, he will assume the responsibilities of a Vice President of the Foundation. Dr. Weaver will concern himself primarily with the Foundation's scientific and medical activities.

During 1958 Mr. Albert Bradley, former Board Chairman of the General Motors Corporation and Chairman of the Board of Trustees of the Foundation, undertook additional responsibilities of an executive nature in connection with the operations of the Foundation.

Medical Research and Education

Cancer Research and Related Programs

SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH

As EARLIER *Reports* of this Foundation have indicated, a sizable portion of its revenue is dedicated to cancer research and virtually all of this is contributed to the Sloan-Kettering Institute for Cancer Research in New York and to one or two activities that are closely identified with the program of this institution. The Foundation participated in the establishment of the Sloan-Kettering Institute in 1945, having pledged at that time close to $5 million, more than half of which was used for the construction of the research building of the Institute, which is physically a part of the complex of buildings making up the well-known Memorial Cancer Center in New York.

From the date of the first grant in 1945 to the end of December 1958, the grand total of all commitments made by the Foundation to the Sloan-Kettering Institute and to enterprises identified with the work of the Institute approximated $12.5 million. These commitments have included sums for capital expenditure and also for general operations. In addition to special grants which may be made from time to time, the Foundation has pledged itself to an annual future contribution of $400,000 for general support of the Institute. This is automatically renewed from year to year and is cancelable on five years' notice. Hence the Foundation has an indefinite five-year commitment to the Institute in the amount of $2 million to finance operations.

According to one of the more recent reports issued by the Sloan-Kettering Institute, some $6 million were budgeted for research during the calendar

Mr. Alfred P. Sloan, Jr., with Messrs. Frank A. Howard and Laurance S. Rockefeller, laying cornerstone for The Walker Laboratory, new building of the Sloan-Kettering Institute for Cancer Research at Rye, New York, June 6, 1958.

year 1958. Basic support from the Foundation, totalling $400,000 a year, supplemented by other Foundation grants to the Sloan-Kettering Institute, which, in recent years, have approached $100,000 per year, thus constitutes an important but a relatively small percentage of the financial requirements of this important research organization. Many private agencies and governmental research institutes contribute the additional funds which permit Sloan-Kettering to carry out its research program. Among the principal sources of these funds are the National Cancer Institute of the United States Public Health Service, the American Cancer Society, the United States Atomic Energy Commission, the Charles F. Kettering Foundation, the Damon Runyon Memorial Fund, the Albert and Mary Lasker Foundation, the André and Bella Meyer Foundation, the Black-Stevenson Fund, the Max C. Fleischmann Foundation, and other equally noteworthy organizations. Contributions are also made by many individuals.

On June 6, 1958 Mr. Sloan and other officers of the Sloan-Kettering Institute laid the cornerstone of a new three-story structure in Rye, New York, to be known as the Walker Laboratory. The building, which became possible as the result of a generous legacy from the estate of the late Donald S. Walker, will supplement the facilities of the original Sloan-Kettering Institute building in New York City. It is estimated that the new structure will provide approximately 95,000 square feet of floor area. Present plans of the Institute contemplate the use of two principal floors of the new Walker Building as laboratories for chemical and biological studies. These special laboratories will provide space and equipment for phases of the Institute's work that do not require contact with patients, especially for experiments that are concerned with the testing of synthetic or natural materials for possible use against cancer growing under experimental conditions.

The Institute arose out of a conception of a concerted scientific attack upon the problem of cancer, formulated and developed, as the Second World War was coming to a close, by Mr. Sloan, the President of the Foundation, supported by certain close associates of his including Mr. Frank A. Howard, at the time President of the Standard Oil Development Company, the late Dr. Charles F. Kettering, and Dr. Cornelius P. Rhoads, the Director of the Institute. This conception of a broad scientific attack upon the disease derived much of its inspiration and justification from the pooled research efforts

which became popular during the war in many of our major industrial and university laboratories.

As developed by Mr. Sloan and his associates, the concept involved the establishment of a purely research organization within the framework of one of the nation's leading centers for cancer treatment. Research and clinical activities would thus complement one another. Clinical materials would be readily available; and the scientific knowledge which might grow out of the research could be quickly applied to existing cancer therapy. Of equal importance to the conception of this research Institute was the idea of bringing together specialists from relevant disciplines within the medical sciences and from the basic natural-science disciplines that are closely allied. It was assumed, moreover, that scientific knowledge about cancer had reached such a level by 1945 as to promise effective capitalization of an organized, cooperative concept of the kind described.

In a progress report issued in June 1958, Dr. Rhoads, commenting on the program of the Institute, declared that its research activity is dedicated to a single objective, namely, better control of cancer in man. Under arrangements made with Memorial Center, the Institute, as a research affiliate of the Center, conducts scientific laboratory research and experiments with new therapy on a coordinated basis. "The research physician," says Dr. Rhoads, "spends part of his time with the test tubes and microscope of his laboratory and part of his time with hospitalized cancer patients. The experimental scientist leaves his laboratory to visit the cancer patient with the physician."

The Institute's program has been developed by individuals who have made their career in research. Each research area is reviewed annually by a group of ten scientific consultants who, in Dr. Rhoads' words, "represent an impartial cross-section of the nation's leading scientists." In addition, a special Committee on Scientific Policy, made up of seven members of the Board of Trustees of the Institute, concern themselves with the general research policy of the Institute. This Committee is headed by Dr. Warren Weaver. Serving with him are Dr. Roger Adams of the University of Illinois; Dr. Joseph C. Hinsey, Director of the New York Hospital-Cornell Medical Center; Mr. Frank A. Howard; Dr. W. Albert Noyes, Jr. of the University of Rochester; and Dr. Rhoads.

Five years after its organization, the Institute became a separate corporate entity under the Membership Corporation Law of the State of New York, with its own Board of Trustees. Thus, though it continues as a physical part of Memorial Center, maintaining an intimate day-to-day integration of its activities with the clinical activities of the Center, it enjoys a great deal of autonomy, both in its internal administration and in the determination of its policies. At the present time the Institute has a Board of Trustees of 21 members. Three members of this Board are nominated by the Alfred P. Sloan Foundation, four are nominated by the Board of Memorial Center, and the remaining members are nominated jointly by the Foundation and Memorial Center. Mr. Sloan continues as Chairman of the Board and Mr. Frank A. Howard serves as President.

As already indicated, Dr. Rhoads is Director of the Institute. One of three associates in the general administration of the Institute, Dr. A. R. T. Denues, serves as Deputy Director and two, Dr. H. T. Randall and Dr. C. C. Stock, serve as Associate Directors. There are 13 other senior members of the professional staff who assume major responsibility for the Institute's research and teaching programs. The professional staff of the Institute now includes more than 200 physicians and scientists and there is a supporting staff of some 350 individuals.

In outlining various research approaches to the cancer problem, Dr. Rhoads emphasizes the dependence of the narrower problem of cancer research upon broadened knowledge of basic biology and immunology. "Such broad basic knowledge," says Dr. Rhoads, "must be won before cancer can be completely understood. Yet – as almost always happens in cancer research – the narrower effort to fight the disease is steadily illuminating the more fundamental puzzles."

This narrower undertaking continues along various lines at the Institute. Dr. Rhoads declares that the systematic effort to find cancer-destroying drugs, a part of a broad chemotherapy program, launched somewhat over a decade ago, has now become the focus of increasingly potent drug synthesis and is expanding our fundamental knowledge of the chemistry of normal and malignant cell growth. "The Institute's study of hormones and enzymes," continues Dr. Rhoads, "steadily produces potent new tools for the diagnosis and palliation not only of cancer but of other diseases as well." The Institute

is also making its contribution to the broad effort to learn of the environmental influences in cancer causation.

Comments such as the above were derived from various recent reports issued by the Institute. In them Dr. Rhoads, the Director, is conservatively optimistic about the progress of what might be described as the narrower effort to determine the cause and cure of cancer. He emphasizes that there are many fundamental mysteries of a biochemical nature that must still be resolved if we are to understand the nature of cancer. At the same time, he says that the enormous progress which has been made in the last few years in our understanding of cancer "is in itself proof that the problems are not beyond the mind's power, that we will not have to wait for all the basic problems to be solved before making significant progress, (and) that there are striking analogies between cancer and other diseases already under control."

SOUTHERN RESEARCH INSTITUTE

Some of the work at the Sloan-Kettering Institute has been developed in collaboration with other organizations. These include industrial laboratories, particularly in the pharmacological industry, other hospitals, and research institutes. Among the latter, the Southern Research Institute of Birmingham, Alabama, has, in recent years, assumed rather important responsibilities in certain cooperative aspects of Sloan-Kettering's chemotherapy program. Various biochemical research activities have been carried on in its Kettering-Meyer Biological Laboratory. In conjunction with the Sloan-Kettering scientists, staff scientists at Southern Research Institute have sought to identify variation from normality in cell structure in human and animal cancer.

The last major Foundation commitment to assist cooperative research projects at Southern Research Institute was made in 1956 and covered the period from January 1, 1957 to December 31, 1959. The amount of the commitment was $250,000.

SLOAN-KETTERING DIVISION OF THE CORNELL UNIVERSITY MEDICAL COLLEGE

Because of the wealth of professional competence, laboratory facilities and the need to expand the pool of trained men and women in the cancer

field, the authorities at Sloan-Kettering established a special educational division in 1950. This is a graduate teaching and research program operated in conjunction with the Cornell University Medical College, formally known as the Sloan-Kettering Division of the Cornell University Medical College. The combined University-Institute staff supervises study and research programs for graduate students who plan to qualify for the Master's degree or for the degree of Doctor of Philosophy. The faculty, whose specialties embrace the basic disciplines in the curriculum of a general medical school, has been derived from the Institute's own body of specialists and other specialists available at the Memorial Center and at Cornell University.

The special focus of this Division is, of course, research, teaching and medical care relating to neoplastic diseases. Nevertheless, the training program is a broad one and the work may lead to degrees in the fields of biochemistry, biology, biophysics, pathology and preventive medicine. In June

Students in the Nurse-Internship Project, James Ewing Hospital–New York University. Director: Rosemary Bouchard (second row, third from right).

1958 the program had 19 candidates for graduate degrees of whom 15 were candidates for the doctorate. Of these 15, eight were majors in biology, six in biochemistry and one in biophysics. Four of these were currently completing their theses for that degree. Four others had already been awarded the doctorate under the program of the Division. At the same time, the program of the Division has attracted some 68 holders of fellowships who are in residence in the Institute for some form of advanced study. Of these, 38 came from some 22 foreign countries. Some of the fellowship support for this educational program is also derived from grants made by the Foundation.

NURSE INTERNSHIP PROJECT

The Foundation has also assisted the Institute during the past four or five years in another educational activity. This is the cooperative nurse-internship program carried on at the James Ewing Hospital of the Memorial Center in cooperation with the Department of Nurse Education of New York University. The program provides graduate nurses with a one-year curriculum which emphasizes the nursing aspects of cancer chemotherapy and other related activities of the Sloan-Kettering Institute. In July 1958 some 45 nurse interns had been enrolled and 14 had completed the cooperative course. Of these 14 alumnae, ten are now serving other institutions and four have returned to the nursing staff of the James Ewing Hospital at the Memorial Center.

RESIDENCE FOR NURSES–MEMORIAL CENTER

Related to this special interest in nurse education is a commitment which the Foundation made on January 9, 1958 to erect a new dormitory for nurses at the Memorial Center. The grant was made after an exhaustive study had been conducted by various specialists in the hospital field to determine the character and extent of Memorial's needs for new housing for its nursing staff. The commitment is in the amount of $2 million. The Trustees of the Foundation made this commitment with the understanding that it would be matched by a personal contribution from Mr. Alfred P. Sloan, Jr. Plans for this new building are now being developed by the architects and it is anticipated that construction will start soon.

Distinguished guests at the dinner at the Waldorf-Astoria in New York C October 22, 1957, during which Mr. Sloan was given the Fran Lahey Memorial Award for Outstanding Leadership in Me Education: (left to right) S. Sloan Colt, President, Nati Fund for Medical Education; Colby M. Chester, hono chairman, General Foods Corporation; Mr. Ho the President; and Dr. A. Whitney Grisw President of Yale University.

Medical Research Other Than Cancer Research

OPHTHALMIC RESEARCH– COUNCIL FOR RESEARCH IN GLAUCOMA AND ALLIED DISEASES

AFTER CANCER RESEARCH, the medical area in which the Foundation is currently most interested is that of diseases of the eye. Modest appropriations have been continued during the last two years to support certain researches in ophthalmology, these being concerned primarily with the nature and possible treatment of the diseases known as glaucoma (hardening of the eyeball), and uveitis (inflammation of the inner blood vessel coat of the eye). Funds appropriated by the Foundation for ophthalmological research are expended under the direction of a special board of consultants known as the Council for Research in Glaucoma and Allied Diseases. The Chairman of the Council is Dr. Conrad Berens, Consultant to the Department of Research, New York Eye and Ear Infirmary. His professional associates are Dr. John H. Dunnington, Director, Institute of Ophthalmology, Presbyterian Hospital, New York; Dr. Edwin B. Dunphy, Chief of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, Massachusetts; Dr. R. Townley Paton, Surgeon Director, Manhattan Eye, Ear and Throat Hospital; and Dr. A. E. Maumenee, Ophthalmologist-in-Chief and Professor of Ophthalmology, The Johns Hopkins University School of Medicine. During 1958 a sixth professional member joined the Council. He is Dr. Frank W. Newell, Professor of the Department of Surgery and Chairman, Section of Ophthalmology, University of Chicago. Three members of the Foundation staff, namely, Mr. Raymond P. Sloan, Vice President, Mr. James F. Kenney, Secretary and Treasurer, and Dr. Arnold J. Zurcher, Vice President and Executive Director, are *ex officio* members of the Council. The Council's offices are located at 111 East 59th Street, New York 22, N. Y. Mrs. Mary M. Mollica serves as Executive Secretary.

Initial grants for the research program of the Council for Research in Glaucoma and Allied Diseases were made in 1953. Currently the biennial appropriations for the research and related activities of this program approximate $180,000 over a two-year period. From this appropriation, the Council made approximately 20 grants during the biennium under review. These grants went to a dozen medical schools, research hospitals and institutes.

Most of the recipients applied the new funds to investigations they had undertaken with Foundation support prior to 1957. These earlier projects were primarily concerned with a study of glaucoma. The researchers are seeking further information as to the nature of the intra-ocular fluids and as to the factors which influence or inhibit their production. Attention has also been given to tonographic methods for measuring internal pressures in the eye and to testing drugs which may prove to be clinically useful in the treatment of glaucoma.

Several of the projects undertaken more recently have directed their effort towards uveitis and have sought to expand professional understanding of

Participants in conference at Princeton, New Jersey, May 1958, called to consider the status of research in uveitis. Chairman of the conference, Dr. Irving H. Leopold, Professor of Ophthalmology, University of Pennsylvania (arrow).

the etiology of uveitis. A project begun at Baylor University, Houston, Texas, in 1957 has been concerned with the cultivation of living ocular tissue with primary reference to uveitis. Another project carried on by the American Registry of Pathology of the Armed Forces Institute is concerned with the etiology and pathology of uveitis, and with studies at this institution involving an histopathologic re-evaluation of the wealth of ocular specimens available in the Registry of Ophthalmic Pathology.

Recognizing the need for more trained personnel in the various scientific and medical disciplines relating to ophthalmology, the Council, during 1958, decided to earmark a small portion of available funds as fellowship stipends for the support of young medical men who might be looking toward a research career. Grants were accordingly made for this purpose to the University of Oregon Medical School, the University of California Medical School and to The Johns Hopkins University. The individual beneficiaries of these grants at these three institutions engage in research that is directly related to the Council's broad program; but their primary responsibility is the fulfillment of the academic and professional requirements leading to an advanced degree in an appropriate medical discipline.

Among the more important recent activities of the Council for Research in Glaucoma and Allied Diseases was its sponsorship and support of a series of meetings called to assess the current state of research on uveitis. The meetings were held at Princeton, New Jersey, during May 1958. Some 30 leading ophthalmologists and other specialists representing various related disciplines attended these sessions. The transcript of the proceedings of the Princeton meetings is scheduled for publication by the Council during 1959.

DESCRIPTION OF PROJECTS IN OPHTHALMOLOGY

Massachusetts Eye and Ear Infirmary, 240 Charles Street, Boston, Mass. To support further work on the anatomical and physical factors controlling the resistance to outflow of aqueous humor from the eye and on the effect of various drugs on the pressure in the normal and the glaucomatous eye. The investigations are being conducted by Dr. W. Morton Grant under the direction of Dr. Edwin B. Dunphy, Chief of Ophthalmology of the grantee organization. For this project the Council authorized a grant of $10,462.50 during 1957. No additional grants were authorized during 1958.

University of California Medical Center, San Francisco 22, Calif.

In this project a study is being made of biochemical and pathological aspects of primary and secondary glaucoma. Particular attention is being given to the mechanism by which fluids leave both the normal and glaucomatous eye. Consideration is also being given to the principles which underlie the application of tonometers in measuring the pressure on the eye. The work is being directed by Dr. Michael J. Hogan who is Director of the Center's Francis I. Proctor Foundation. Amounts authorized for this project by the Council during 1957 and 1958 totalled $23,700.

New York University Post-Graduate Medical School, New York 16, N.Y.

The grant for this project financed special studies to localize and detect radioactive labelled antigen in experimental uveitis. It is anticipated that these studies will contribute to a better understanding of the pathogenesis and control of uveitis and allied diseases. Dr. Goodwin M. Breinin, Director of Research at the grantee institution, supervises this project. Most of the experimental work has been conducted by Dr. Antonio N. Fernando of the institution's Department of Ophthalmology. During 1957 the Council authorized a grant to this project in the amount of $7,044.

National Academy of Sciences, Washington 25, D. C.

This grant, nominally made to the National Academy of Sciences, was applied to research activities of the American Registry of Pathology of the Armed Forces Institute of Pathology. Studies, thus financed, involve an intensive histopathologic re-evaluation of the variety of ocular specimens available in the Registry of Ophthalmic Pathology. Those in charge of the project declare that considerable information has been obtained concerning the incidence and pathologic form of such specific causes of uveitis as toxoplasmosis, tuberculosis, syphilis, nematodiasis and fungus infections. The research is under the supervision of Dr. Lorenz E. Zimmerman, Chief of the Section of Ophthalmic Pathology of the Armed Forces Institute of Pathology. Amounts recommended by the Council and approved for payment to this project during the biennium totalled $21,480.

Washington University School of Medicine, St. Louis, Mo.

Additional funds were given this institution to assist researchers in its Department of Ophthalmology in their efforts to improve methods for

measuring the flow of aqueous humor from the eye and to increase professional understanding of the mechanisms of secretion and outflow. The work continues under the direction of Dr. Bernard Becker, Professor of Ophthalmology of the grantee institution. Funds allocated to this project during the biennium totalled $36,819.20.

College of Medicine, Baylor University, Houston, Tex.

Initial grants were made to this institution during the biennium to assist projects devoted to the study of living ocular tissues in tissue culture, with primary reference to uveitis. A laboratory for ophthalmic tissue culture was activated in April 1957. The primary aim of the research is to determine the exact role of bacterial hypersensitivity in the etiology of uveitis. The research at this institution is under the direction of Dr. Louis J. Girard. Amount of the grants recommended by the Council and approved by the Foundation totalled $26,580.50.

Manhattan Eye, Ear and Throat Hospital, New York 21, N.Y.

Studies in this institution relate to the physiology and pharmacology of the corneoscleral trabeculae in the normal and glaucomatous eye. The investigation is concerned with the functions of the cellular components of the trabecular meshwork and pathologic changes in the cellular components. The research is being conducted by Dr. Adolph Posner, under the direction of Dr. R. Townley Paton, Surgeon-Director of the grantee institution. Funds authorized for this work for a two-year period amounted to $22,000.

The Iran Foundation, Inc., New York 1, N.Y.

A grant in the amount of $10,000, which supplements an earlier one of like amount, was made to this organization in September 1957 to support clinical work and research in the Department of Ophthalmology at the Nemazee Medical Center in Shiraz, Iran.

Fellowship Grants in Ophthalmology

As indicated earlier, the Foundation, on recommendation of the Council for Research in Glaucoma and Allied Diseases, allocated a small portion of the appropriation for ophthalmic studies to stipends for fellowships in this field. Fellowships were awarded to three young men whose studies are rather directly related to ophthalmology. They were Dr. Yasuo Takinaka

of the University of California Medical School; Dr. K. Nolen Tanner of the University of Oregon Medical School; and Mr. James Parks, a student in the School of Medicine at The Johns Hopkins University. The prime purpose of these fellowships is to encourage outstanding young scientists to develop interests they may have in basic research in ophthalmology.

OTOLOGICAL RESEARCH—THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

In June 1958 the Foundation made a second three-year commitment in the amount of $60,000 to The Johns Hopkins University School of Medicine for the support of certain research activities of the School's Institute of Human Communication. The earlier grant of like amount had been made to this project in 1955. The Institute is directed by Dr. John E. Bordley, head of the Department of Laryngology and Otology.

Among projects undertaken by the Institute with funds supplied by the Foundation is one directed by Dr. Henry Marks. This seeks to develop a visual testing technique, of high diagnostic accuracy, for determining the perceptual capacity and mental development of children handicapped by inability to communicate. It is anticipated that the technique thus developed will be of considerable assistance in determining the capacity of children, born with hearing handicaps, to profit from educational programs. Other current activities at the Institute, partly supported by Foundation funds, are directed towards measuring with greater accuracy the hearing handicaps resulting from brain injury. Much of this work has been done by Dr. Ging Wang and the results have been published as various articles in the *American Journal of Physical Medicine* and the *Journal of Neurophysiology*.

Dr. Bordley has indicated that the rather basic nature of these studies at the Institute necessitates further exploration. He feels that considerable additional work will be required if the studies are to achieve maximum value for those interested in the medical aspects of defective hearing and for educators. It is anticipated, therefore, that the funds provided by the Foundation's new grant will be used, at least in part, to finance the work of the teams of researchers who have been engaged on the projects described above.

Scientific Research and Programs in Science Education

BASIC SCIENTIFIC RESEARCH— SCIENCE FELLOWSHIP PROGRAM

EARLY IN 1954, influenced by the growing concern over the relative lack of support for basic scientific research in the United States, the Trustees of the Foundation appointed a special committee of scientists to survey the problem and advise them as to steps which might be taken to assist in solving this problem. Professor Roger Adams, then Head of the Department of Chemistry at the University of Illinois, agreed to serve as Chairman of this committee. Others who agreed to serve with him on the committee were: Dr. Mervin J. Kelly, then President of the Bell Telephone Laboratories, Inc. and currently a Foundation Trustee; Dr. Robert W. King, formerly Assistant to the President of Bell Telephone Laboratories, Inc.; Professor W. Albert Noyes, Jr., Dean of the College of Arts and Sciences at the University of Rochester; and Dr. Julius A. Stratton, now President of the Massachusetts Institute of Technology.

Some months after its appointment, this committee made an extensive report to the Foundation. The principal finding in this report was that far too little money was being spent on pure research in the sciences in the United States. Although governmental budgets for research were currently relatively large, it was pointed out that more than 90 per cent was being devoted to developmental projects and only a very small fraction of the remaining ten per cent might be considered as support of basic research.

Dr. Adams' special committee accordingly recommended that the Foundation's Trustees give consideration to the possibility of devoting some of

Illustration of demonstration models developed by Physical Science Study Committee at Massachusetts Institute of Technology for high school physics classes.

the income of the Foundation to the support of basic scientific research. If such funds were voted, the committee recommended that their best possible investment would be in the form of grants to improve research opportunities for young scientists who had recently secured their doctorate and who had undertaken teaching and research responsibilities in the universities. In supporting this recommendation the committee pointed out that far too often scientists, and especially young scientists, encounter obstacles which slow down appreciably the tempo of their research activity and often stop it altogether. Among these obstacles are too many teaching and administrative duties in the institutions with which they may be connected, lack of funds in the institutional budget to finance research, failure of outside organizations to take an interest in pure research, and the pressure to take on developmental projects which are likely to secure generous governmental or industrial support.

The committee accordingly made a specific recommendation to the Foundation's Trustees that they apply whatever funds they might budget for science to the establishment of fellowships for outstanding young scientists thereby giving them a degree of financial independence in carrying forward basic researches upon which they might be engaged. That suggestion was accepted by the Trustees during 1954 and the Foundation inaugurated its so-called Program in Basic Science, initial grants having been made to scientists in 1955 a few months after the Trustees voted their first appropriation. For the time being, it was decided to limit support to the area of the physical sciences which, as defined by the Foundation, include chemistry, mathematics, physics and closely allied fields such as astrophysics and geochemistry.

Since the aim is to support individuals and not projects, and to give these individuals maximum freedom in determining to what research activities Foundation funds should be applied, it became of more than ordinary importance for the Foundation to secure the best possible information as to the professional attainments and promise of those selected for its fellowship grants. To administer this new Program the Foundation accordingly sought for a scientist with special knowledge of the work of his scientific associates in the various disciplines. In due course, Dr. Richard T. Arnold, at the time Head of the Department of Chemistry at the University of

Minnesota, was appointed Administrator to initiate this Program and administer it.

To assist him and the Foundation in the effort to secure the best available information on possible candidates for awards and to assist in making the selection of those to be recommended to the Trustees for awards, a special permanent advisory committee of scientists was set up which is known as the permanent Program Committee. This Committee not only evaluates the performance of scholars for the Program and suggests possible nominees, but serves as a liaison agency between the Foundation and the university and scientific worlds and advises on the general evolution of this Program. The Chairman of the Program Committee since its inception has been Professor Arthur C. Cope, Head of the Department of Chemistry at the Massachusetts Institute of Technology. Other members who have served continuously since the inception of the Committee are Professor Kenneth

Members of the Program Committee of the Foundation's Basic Science Program. Dr. Richard T. Arnold, Administrator of the Program, at right.

S. Pitzer, Dean of the College of Chemistry, University of California at Berkeley; Professor Frederick Seitz, Head of the Department of Physics at the University of Illinois; and Professor Albert W. Tucker, Head of the Department of Mathematics at Princeton University. Another original member of the Committee, Dr. James Brown Fisk, who led the three-man delegation of United States scientists to the Geneva Conference on Nuclear Armament in June 1958, and who has since become President of the Bell Telephone Laboratories, Inc., resigned during 1958. He was succeeded on the Committee by Professor Polykarp Kusch, Nobel Laureate in Physics and a member of the Department of Physics at Columbia University. In 1958 Professor Deane Montgomery of the Mathematics faculty of the Institute for Advanced Study at Princeton, and Professor Henry Taube of the Department of Chemistry, University of Chicago, joined the Foundation's Program Committee for the Basic Science project.

New members of the Program Committee of the Foundation's Basic Science Program: Professor Polykarp Kusch of Columbia University, Dr. Deane Montgomery of the Institute for Advanced Study, and Dr. Henry Taube of the University of Chicago.

POLYKARP KUSCH

DEANE MONTGOMERY

HENRY TAUBE

All awards of grants and fellowships under this Program are approved on behalf of the Trustees by a special Trustee Committee consisting of Mr. Frank A. Howard, Chairman, Dr. Warren Weaver and Dr. Mervin J. Kelly.

Although applications for grants under this Program can be sent directly to the Foundation and the Program's Administrator, actual nominations for possible awards are usually made by the senior scientific associates of possible candidates. These nominators are well acquainted with the nominee's current researches and have perhaps the best judgment as to his potential as a creative scientist. When nominations are sent to the Program Administrator and the Program Committee of the Foundation, they are usually accompanied by a short biographical sketch of the nominee similar to that found in *American Men of Science,* a list of the nominee's scientific publications, names of other references, preferably from institutions other than the one with which the nominee is connected, and an estimate of the minimum grant necessary to assist the nominee effectively in promoting his researches. Grants, when made, normally take the form of a fellowship and the monies provided are spent at the discretion of the holder of the fellowship although in accordance with the policies of the institution with which he is connected. The grants are nominally made to the institution. Grants not taking the form of fellowships are occasionally made under this Program in order to provide capital equipment to be used by a holder of a fellowship in his researches. Such capital equipment becomes the property of the institution where the fellow is employed.

Initial awards in this Program were limited to a single year but subsequently the Trustees determined to extend the possible duration of an award to three years when a commitment of that length appeared desirable and commitments may be renewed by the Trustees on recommendation of the Program Administrator and the Program Committee. In 1956 the Trustees approved a gradual expansion of the Program, authorizing additional annual increments in the appropriations for the Program, until the annual outlay reached $1 million. By the end of 1958, the annual volume of expenditure had reached $800,000 and more than $2.5 million had been expended since the Program's inception. Commitments already planned at the end of 1958 will bring the total authorizations for this Program to $3.5 million.

By December 1958 some 80 scientists had received grants as Alfred P. Sloan Research Fellows in science and the new commitments then being planned will bring the total of Research Fellows to 118. Virtually all of the scientists supported under the Program are connected with American colleges and universities, some 47 of these having become the nominal grantees of the funds under the Program between 1955 and the beginning of 1959. An occasional Canadian university has been added to the group.

GRANTS IN BASIC SCIENCE— RECIPIENTS OF FELLOWSHIPS

Brown University, Providence, R. I.
Herbert Federer, *Mathematics;* Gordon F. Newell, *Mathematics*

California Institute of Technology, Pasadena, Calif.
Richard P. Feynman, *Physics;* Murray Gell-Mann, *Physics;* John R. Pellam, *Physics;* Frank Press, *Physics;* Gerald J. Wasserburg, *Chemistry*

University of California, Berkeley, Calif.
William D. Gwinn, *Chemistry;* Frank E. Harris, Jr., *Chemistry;* Henry Helson, *Mathematics;* Harold S. Johnston, *Chemistry;* Walter D. Knight, *Physics;* Lucien M. LeCam, *Mathematics*

University of California, Los Angeles, Calif.
William G. McMillan, *Chemistry*

Carnegie Institute of Technology, Pittsburgh, Pa.
Richard E. Cutkosky, *Physics;* Simeon A. Friedberg, *Physics;* Robert G. Parr, *Chemistry*

University of Chicago, Chicago, Ill.
Frederick Reif, *Physics*

Columbia University, New York, N. Y.
Richard T. Arnold, *Chemistry;* Benjamin P. Dailey, *Chemistry*

Cornell University, Ithaca, N. Y.
Donald F. Holcomb, *Physics;* Donald D. Phillips, *Chemistry*

Dartmouth College, Hanover, N. H.
John McCarthy, *Mathematics*

Duke University, Durham, N. C.
William R. Krigbaum, *Chemistry*

Georgia Institute of Technology, Atlanta, Ga.
William H. Eberhardt, *Chemistry;* Jack S. Hine, *Chemistry*

Harvard University, Cambridge, Mass.
Karl Strauch, *Physics;* John T. Tate, *Mathematics;* Peter Yates, *Chemistry*

University of Illinois, Urbana, Ill.
Douglas E. Applequist, *Chemistry;* Elias J. Corey, *Chemistry;* Alex Heller, *Mathematics;* Dillon E. Mapother, *Physics;* Charles P. Slichter, *Physics*

Indiana University, Bloomington, Ind.
Vernon J. Shiner, Jr., *Chemistry;* Harrison Shull, *Chemistry*

The Johns Hopkins University, Baltimore, Md.
Alex Nickon, *Chemistry*

Massachusetts Institute of Technology, Cambridge, Mass.
Lee C. Bradley, *Physics;* David H. Frisch, *Physics;* Carl W. Garland, *Chemistry;* Herbert O. House, *Chemistry;* John F. Nash, Jr., *Mathematics;* Daniel Burrill Ray, *Mathematics*

McGill University, Montreal, Que., Canada
Basil A. Rattray, *Mathematics*

University of Michigan, Ann Arbor, Mich.
Richard B. Bernstein, *Chemistry;* Raoul Bott, *Mathematics;* William J. LeVeque, *Mathematics*

University of Minnesota, Minneapolis, Minn.
Hidehiko Yamabe, *Mathematics*

University of Missouri, Columbia, Mo.
Nelson M. Duller, Jr., *Physics*

Northwestern University, Evanston, Ill.
Gordon M. Barrow, *Chemistry;* Howard E. Zimmerman, *Chemistry*

Oberlin College, Oberlin, Ohio
William B. Hawkins, *Physics*

Oregon State College, Corvallis, Ore.
John C. Decius, *Chemistry;* Kenneth W. Hedberg, *Chemistry*

Pennsylvania State University, University Park, Pa.
Robert W. Taft, Jr., *Chemistry*

Polytechnic Institute of Brooklyn, Brooklyn, N. Y.
Frederick M. Beringer, *Chemistry*

Princeton University, Princeton, N. J.
Jose C. Adem, *Mathematics;* Thomas R. Carver, *Physics;* John W. Milnor, *Mathematics*

Purdue University, Lafayette, Ind.
Melvin Henriksen, *Mathematics*

Queen's University, Kingston, Ont., Canada
Bernhard Banaschewski, *Mathematics;* Hubert W. Ellis, *Mathematics*

University of Rochester, Rochester, N. Y.
Virgil Boekelheide, *Chemistry;* Walter Rudin, *Mathematics;* Malcolm P. Savedoff, *Physics*

Rutgers University, New Brunswick, N. J.
Donald B. Denney, *Chemistry*

University of South Carolina, Columbia, S. C.
John L. Kice, *Chemistry*

University of Southern California, Los Angeles, Calif.
Jerome A. Berson, *Chemistry*

Stanford University, Stanford, Calif.
Walter E. Meyerhof, *Physics*

University of Toronto, Toronto, Ont., Canada
Richard D. Russell, *Physics*

University of Virginia, Charlottesville, Va.
Stephan Berko, *Physics;* Loren G. Hepler, *Chemistry*

Washington University, St. Louis, Mo.
Richard E. Norberg, *Physics;* Grant W. Urry, *Chemistry*

University of Washington, Seattle, Wash.
Victor L. Klee, *Mathematics*

Wayne State University, Detroit, Mich.
Norman L. Allinger, *Chemistry*

University of Wisconsin, Madison, Wis.
Richard N. Dexter, *Physics;* John L. Margrave, *Chemistry*

Teacher Training Projects

UNIVERSITY OF MICHIGAN–SYRACUSE UNIVERSITY–
HARVARD UNIVERSITY

THE FOUNDATION'S INTEREST in improving textbooks and teaching materials in various scientific disciplines has been supplemented by certain pilot projects designed to improve the quality of the teaching in science and mathematics in the secondary schools and to add to the pool of teachers qualified to teach those subjects. Altogether three projects of this nature have been set up. Total commitments, which vary from one to two years, approximated $240,000.

The first of these three projects was initiated at the Horace Rackham School of Graduate Studies at the University of Michigan. An annual grant of $15,000 was supplied this School to provide special fellowships at Ann Arbor for certain teachers in the Michigan secondary school system. In several continuation centers conducted by the University in various parts of Michigan, teachers in the State's public school system are permitted to pursue courses leading to the Master's degree. The curriculum requires that at some time during the candidates' work for the degree, preferably after having completed certain "professional" pedagogical subjects in the continuation centers, they shall repair to the campus at Ann Arbor. There, during a six-weeks' residence period, they must complete substantive courses in the discipline in which they specialize as teachers. Almost invariably this six-weeks' residence requirement is fulfilled during a teacher's summer vacation.

Funds from the Foundation's grant have enabled Dean Sawyer and his associates at the Rackham School to provide small fellowships for exceptionally promising and able teachers in the State system who have completed their work for the degree at the continuation centers and who are ready for their final six weeks on the University campus. These fellowships pay the

holder's travel and living expenses at Ann Arbor and the travel expenses of members of his immediate family. In addition, funds are made available to pay the cost of tuition. Besides reducing somewhat the financial burden upon selected teachers who elect to do graduate work, this special fellowship project will also expedite considerably their attainment of a graduate degree.

Additionally, the Foundation has provided the Rackham School with an annual grant of $12,500 for fellowships for young men and women who have recently acquired their baccalaureate degree, either at Michigan or elsewhere, and who intend to secure a Master's degree in preparation for a teaching career in secondary schools. The fellowships are designed to attract able young people to the teaching profession and perhaps speed up the academic preparation for that profession on the part of those inclined to enter it. Awards are made only to young men or women who have high scholastic records and who have indicated not only a desire to teach but also appear to possess an aptitude for teaching. Preference is given those who chose mathematics or a science as their undergraduate major.

At about the time the Michigan teacher-training project was inaugurated, the Foundation lent its financial assistance to another such project at Syracuse University. The Syracuse project is comparable to the one at Michigan except that it is limited to teachers in the area of mathematics. Like the project at Michigan, the Syracuse program is a twofold one. The first part, which the Syracuse authorities call the "released-time plan," provides support for certain teachers of mathematics in the Syracuse metropolitan area. Those selected must arrange with the authorities of their local school systems to be relieved of formal teaching duties at noon of each school day. Afternoons are then given over by these teachers to a course of study at the University arranged for them by the appropriate schools of the University and staffed by some of its most distinguished mathematicians. Awards made from the Foundation's grant compensate the individual teacher for whatever salary he may lose under this plan. In addition, the Foundation's grant supplies his tuition at the University.

The second feature of the Syracuse project, which Chancellor Tolley has identified as the "tuition-free study plan," extends similar opportunities to other teachers of mathematics within the greater Syracuse area who may make suitable arrangements with their respective school systems to pursue

courses of study at the University. Such teachers, however, receive only payment of their tuition from the Foundation's grant. They are not reimbursed for any salary loss occasioned by their attendance at the University. This latter responsibility must be assumed by the local boards of education who employ them.

As in the case of certain phases of the pilot operation at Michigan, the purpose of the teacher-training project at Syracuse is to expedite the efforts of able teachers to improve their professional qualifications. Comment from the authorities at Syracuse indicates that an exceptionally fine group of career teachers has been selected as recipients of the support provided under this program. Syracuse officials are persuaded that this type of project not only provides an opportunity for some of the more able and enterprising among existing teachers of mathematics to improve their professional capacity but that it will also have the effect of attracting able young people to this critically important teaching area in our secondary schools. Commitments already made for this program at Syracuse total $85,000.

The third of the Foundation pilot projects in teacher training is located at the Harvard Graduate School of Education. Here the plan has assumed the form of a series of approximately twenty fellowships awarded annually to outstanding college graduates who wish to pursue a career of teaching in secondary education and who have indicated, by their majors in college, that they are especially competent in the areas of the physical or life sciences or in mathematics. The fellowships, for which the maximum stipend is $2,000, are to be known as "Alfred P. Sloan National Fellowships." Recipients of the fellowships will complete a one-year graduate program under the Harvard Faculties of Education and Arts and Sciences. The fellowships may be continued for a second year. In selecting recipients preference is to be given to applicants for the special program recently developed by Harvard's Graduate School of Education which leads to the Master of Arts in Teaching.

The grant for this project, totalling $100,000, was made in 1957 and will finance the project for two years. In accepting it, Dean Francis Keppel emphasized the special need for the training of teachers in science and mathematics for the nation's secondary schools, describing that need as one of the country's contemporary key educational problems. He declared that the

new fellowship program "will help greatly to increase the number of highly qualified instructors in the scientific disciplines in our secondary schools and will ultimately provide leadership for all teachers in these areas." The first group of Fellows entered Harvard Graduate School of Education in the fall of 1958.

These three Foundation-financed teacher-training projects at Michigan, Syracuse and Harvard are of an experimental nature. Each of them has only recently begun operations and it is still too early to provide more than a cursory and inconclusive appraisal. Nevertheless it is fairly obvious that projects of this type in some of the nation's leading universities can assist in improving the quality of secondary-school teachers and attract additional young people to the teaching field, particularly in those disciplines in which America has been relatively weak, that is, the physical and life sciences and mathematics. It is likely, therefore, that the Trustees of the Foundation will continue to provide limited support for this kind of activity, at least during a period in which it is apparent that the nation is faced with a real shortage of qualified teaching personnel.

Projects to Improve Scientific Curricula

PHYSICAL SCIENCE STUDY COMMITTEE— EDUCATIONAL SERVICES INCORPORATED

CLOSELY RELATED to the Foundation's efforts to improve and expand teaching staffs at the secondary school level are efforts it has made to assist in improving the content and methods of science courses. One of the more important steps in this direction which the Foundation has aided is that taken by a group of scholars centered at the Massachusetts Institute of Technology. Calling themselves the Physical Science Study Committee, this group has undertaken responsibility for the complete revision of the course in physics in the nation's secondary schools. Their effort was premised on the belief that instruction in physics in our preparatory schools could be greatly improved and made far more challenging if the student could be given a systematic introduction to the major concepts of modern physics, including especially developments since the turn of the century, and if the intellectual history of these concepts and their practical exposition could be provided by some of the nation's outstanding university physicists and mathematicians. In providing such a course it was proposed to write an entirely new text and supplement the text with ancillary teaching devices, such as special monographs, films, and apparatus for classroom demonstration that would feature flexibility and economy of effort. Such ancillary materials, it was felt, would make it possible for the staffs of even the smaller high schools to use the new course in their curricula.

The project was undertaken in November 1956 with a large grant from the National Science Foundation. Subsequently, considerable financial assistance was extended the project by the Fund for the Advancement of Education of the Ford Foundation. At about the same time, the Sloan Foundation became the third primary financial supporter of the operation, its Trustees having committed $250,000 to the project's budget on October 9, 1957.

At the time this *Report* went to press, the Physical Science Study Committee had already achieved many of its production goals and was moving rapidly toward the completion of its entire production program. The manuscript of the new basic text in high school physics is virtually complete. Portions of it have already been published. More than a third of the titles planned for the special monograph series are in manuscript and contracts have been made for their publication. These monographs will deal in depth with certain special aspects of physics and will provide accounts of famous historical controversies among scholars which affected the evolution of modern physics. Some of the monographs are in the nature of biographies of eminent physicists and other scientists. About sixty twenty-minute classroom films have been planned and some of these have been produced. Those in charge of the project have also indicated that models for much of the special apparatus for demonstration purposes in laboratory and classroom have been completed.

The Foundation has been informed that considerable success has attended efforts to introduce the new physics course into high schools in various parts of the country. In collaboration with the National Science Foundation and other educational bodies, the Physical Science Study Committee has brought the new materials to the attention of teachers attending courses in certain of the summer science institutes which are held on university campuses all over the United States and financed largely by the National Science Foundation. Having familiarized themselves with the content of the new course, these teachers subsequently attempt to use the materials in their own local classrooms.

Among the scholars and scientists who have been especially prominent in developing this project at MIT mention should be made of the following: Dr. Jerrold Zacharias, Professor of Physics at MIT; Professor Philip Morrison, Professor of Physics at Cornell; Professor Francis L. Friedman, Associate Professor of Physics at MIT; and Dr. Elbert P. Little. The latter served for a time as Executive Director of the Committee. A considerable group of other scientists have served as consultants or rendered service in an administrative capacity or as active participants in developing the materials of the program.

In December 1958 the Physical Science Study Committee, essentially an informal group of scholars, gave way to a more formal legal organization

which will be known as Educational Services Incorporated. This is a tax-exempt body chartered under the laws of Massachusetts to engage in rendering educational services and developing educational materials on a non-profit basis. Mr. James E. Webb, former Director of the Budget and Under Secretary of State, became President of the new corporation and Mr. R. V. Bartz became its Executive Director. The successor organization, with headquarters on the MIT campus and at Watertown, Massachusetts, proposes to complete the various parts of the original production program of the Committee which it succeeds. It will also devote a major share of activity to the educational exploitation of the new materials which have been created.

The undertaking of this group of MIT and collaborating scientists is of more than passing significance to American education. It signalizes one of the first major efforts on the part of outstanding scholars and scientists in our universities to improve the substance of secondary-school science teaching and the preparation of young people in science. It probably also represents the first serious step in recent years to bring the content of the high school course in a major scientific discipline — in this case physics — abreast of the rather extraordinary intellectual developments that have taken place in physical science in the twentieth century, thereby giving the present generation of students in our secondary schools an appreciation of the dynamic and rapidly evolving character of physics and of science in general. If the project achieves even a portion of the objectives which were set for it originally, it may well produce a revolutionary change in the content of the scientific disciplines in our secondary schools and the pedagogical approach to them.

AMERICAN CHEMICAL SOCIETY EDUCATIONAL FILMS

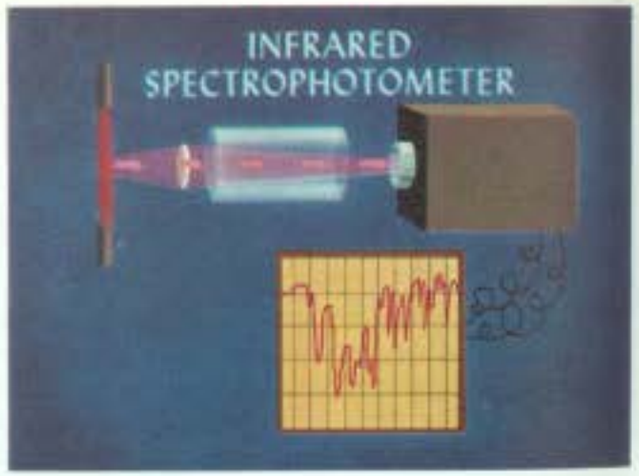
An unusual educational film project was initiated in May 1958 when the Foundation made a grant of $100,000 to the American Chemical Society. With the proceeds of this grant, a special committee of the Society is financing the production of two classroom films for college chemistry courses. The committee consists of Dr. Norris W. Rakestraw of the Scripps Institution of Oceanography, Dr. Henry Eyring of the University of Utah, Dr. J. A. Campbell of Harvey Mudd College, Dr. Farrington Daniels of the University of Wisconsin, and Dr. Harry H. Sisler of the University of Florida. Dr. Linus Pauling and Dr. Richard M. Badger of the California Institute

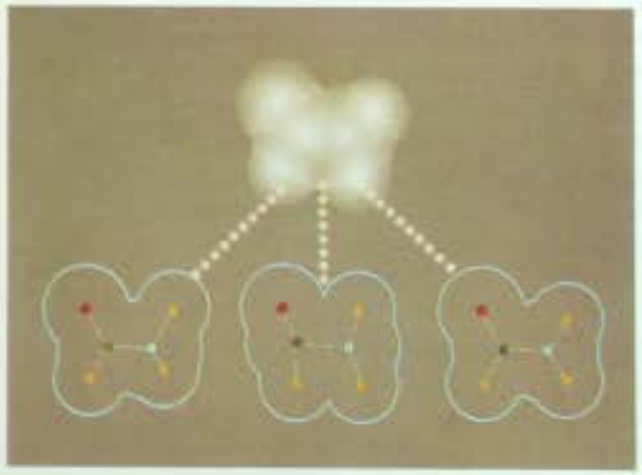
of Technology have also collaborated with the committee. Dr. Joel H. Hildebrand of the University of California at Berkeley is Chairman of the committee.

The first of the films seeks to depict, in animated form, the modes and frequencies of vibration of molecules. Knowledge of these modes and frequencies can yield valuable information about the structures of molecules, the strengths of their bonds, the ways in which they can react, their heat capacities, and their activation energies. The frequencies can be determined experimentally from their infra-red absorption spectra and the film illustrates the relation of these spectra to molecular structure. Text for this film was prepared by Dr. Pauling and Dr. Badger. The second film, on the subject of activated complexes, involves the branch of chemistry known as reaction kinetics, that is, that branch of chemistry which deals with the factors that determine the speed of chemical reactions, an understanding of which is essential in order that man may control chemical processes, accelerating desirable reactions and retarding or preventing undesirable ones. Relying again on the technique of animation, this film will use appropriate diagrams and sketches to illustrate what happens in relatively simple gas reactions. For this film the text was prepared by Dr. Eyring.

Molecular vibrations and reaction kinetics are among the more important basic concepts of physical chemistry and the aim of the two films is to exploit the animator's art in order to demonstrate visually the processes involved in these concepts. Responsibility for the rather complicated mathematical computations which are required to give precision and scientific validity to the various illustrations in the films and for interpreting relevant scientific data, has been assumed by Dr. Earl M. Mortensen, an associate of the Department of Chemistry at the University of Utah, of which Dr. Eyring is the Chairman. Editorial supervision of both films has been exercised by Drs. Hildebrand, Campbell and Rakestraw.

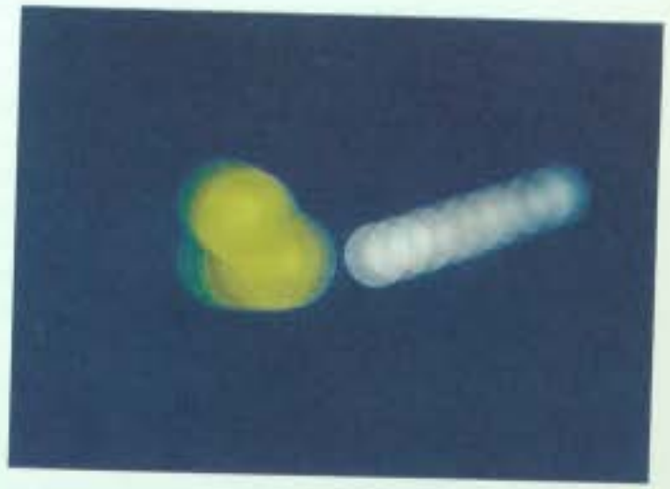
So-called "storyboards," or preliminary treatments, of these two film concepts were originally developed by Sutherland Educational Films, Inc. of Los Angeles with the informal assistance of certain leading scientists. These were subsequently exhibited to the special committee of the American Chemical Society which accepted them as satisfactory preliminary treatments and the basis for further development. The contract to produce the films





Scenes from the American Chemical Society film, *Normal Modes of Molecular Vibrations* (produced by Sutherland Educational Films, Inc.).

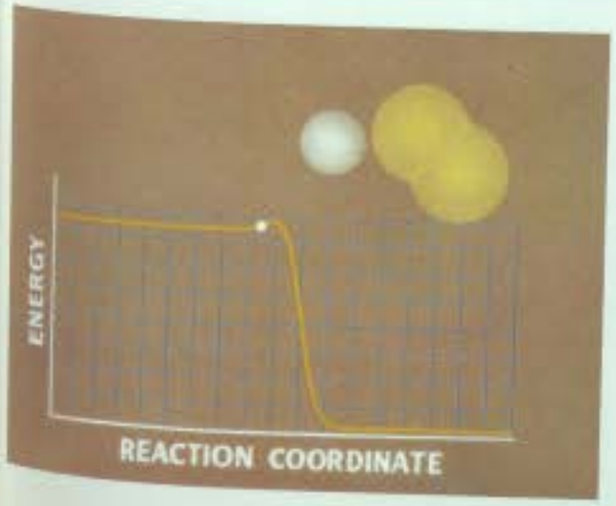
Scenes from the American Chemical Society film, *An Introduction to Reaction Kinetics* (produced by Sutherland Educational Films, Inc.).



Top: *Scene illustrating the use of the spectrophotometer.*

Center: *Comparison of some of the normal modes of molecular vibration of a formamide molecule and its total vibration.*

Bottom: *Illustration of a molecule being turned through Euler's angles. Partial explanation of the derivation of the formula for the number of normal modes a molecule may have.*



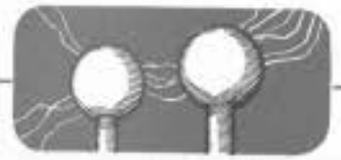
Top: *Composite picture showing a molecule of hydrogen colliding with a molecule of iodine to form an "activated complex."*

Center: *Composite picture showing a molecule of chlorine about to strike a hydrogen atom.*

Bottom: *Graph illustrating energy requirements of a reaction between a chlorine molecule and a hydrogen atom.*

was then let to Sutherland Educational Films, Inc. and the development of the two films has proceeded at the laboratories of this producer under the direction of Gerald Nevius. The answer print of the first of these two films on molecular vibrations will become available early in 1959; and both films will be completed some time during the summer of that year.

A generous grant made by the Fund for the Advancement of Education of the Ford Foundation to the American Chemical Society will enable the Society to produce a sizable number of release prints of the two films and distribute these prints among the chemistry departments of various American institutions for trial use in appropriate chemistry classes. Normally these will be classes at the third-year, or junior level. The films, each of which will be about 10 minutes in length, are to be used not as substitutes for other means of communication to the student but as supplements to lectures and discussions. The grant from the Ford Foundation will also make it possible to appraise the results of this experimental use of the films in college classes, an appraisal which may determine whether the animated film-maker's art can effectively demonstrate visually the kind of complex phenomena and physical behavior which are normally understandable only through mathematical computation and which are, in consequence, difficult to communicate to students if the teacher is restricted to the usual lecture and demonstration methods.



Special Grants for Development of Engineering and Scientific Resources

NEW LABORATORY FOR PHYSICS AND MATHEMATICS—CALIFORNIA INSTITUTE OF TECHNOLOGY

On October 20, 1958 the Foundation made a grant of $1,165,700 to the California Institute of Technology at Pasadena to assist that institution to expand its research and teaching programs in physics and mathematics. The grant made it possible for the Institute to finance the construction of new quarters within an existing building which, for many years, housed the Institute's experimental high-voltage laboratory. When construction is completed, the Institute will have a modern five-story structure, with approximately 50,000 usable square feet of floor space. The building will be named the Alfred P. Sloan Laboratory of Mathematics and Physics.

Two of the five stories in the rebuilt facility will be below ground level. In these basement and sub-basement areas, the Institute will expand its existing research program on the nuclear reactions of certain light elements. For this purpose it will install a new 10-megavolt accelerator to be supplied by the Office of Naval Research, at a cost of approximately $1 million, and certain other types of costly research equipment representing an additional investment of about one half million dollars.

Other spaces in this basement and sub-basement area will house the existing research at the Institute in the field of cryogenics, or low-temperature physics. This is a field in which the Institute's scientists have been making important contributions, particularly in the study of the behavior of liquid helium at temperatures within a few thousandths of a degree of absolute zero. The Institute plans to expand these low-temperature studies to embrace projects on the low-temperature phenomenon of super-conductivity, a condition in which the resistance of certain materials to electrical current disappears altogether.

The three floors above ground level in the reconstructed building are to be devoted to classroom, seminar, and office spaces required by the departments of mathematics and physics. The upper two floors will be assigned exclusively to the department of mathematics.

In presenting his request for this developmental grant to the Foundation, President DuBridge of the Institute commented upon the growing number of students, both graduate and undergraduate, interested in the disciplines of mathematics and physics at the Institute. He indicated that in two recent years mathematics majors had increased by 200 per cent and physics by 50 per cent. Dr. DuBridge pointed out that the increased number of students and the need for additional teaching staff made it imperative that more space be provided for classrooms and for offices used by these departments.

Artist's sketch of the proposed Alfred P. Sloan Laboratory of Mathematics and Physics at California Institute of Technology.

The proceeds of the Foundation's grant will become available to the Institute during a two-year period ending in June 1960, at which time it is anticipated construction of this new facility will have been completed.

THE COOPER UNION FOR THE ADVANCEMENT OF SCIENCE AND ART

In January 1958 the Foundation made a developmental grant of $150,000 to The Cooper Union for the Advancement of Science and Art. Founded by the philanthropist and inventor, Peter Cooper, this institution is one of four privately-financed colleges in the United States which charges no tuition. Its policy of charging no tuition permits the institution to maintain high admissions standards and to admit only the most talented and best qualified irrespective of race, creed, sex or economic status. Throughout its history, it has, in consequence, been able to maintain high academic standards and to turn into the community a stream of highly competent young people, many of whom have made outstanding reputations for themselves. According to Dr. Edwin S. Burdell, President of the institution, results of a recent survey among technical schools indicate that The Cooper Union ranks third in the proportion of its graduates who become "scholars," that is, teachers and researchers. It was this fine record of the institution and the promise of continued effective educational service to the nation, implicit in that record, that was largely responsible for this relatively unusual action of the Trustees in voting this developmental grant.

The Cooper Union expects to begin construction of new facilities for its various divisions during 1959, thus providing an appropriate observance of the institution's centennial year. Although the grant from this Foundation was unrestricted, it is assumed that its proceeds will be used for the development of the proposed new engineering center. According to officers of the institution, it will probably be applied to finance certain sections of the electrical engineering laboratory, possibly the section devoted to electronics.

In acknowledging the Foundation's grant, The Cooper Union's Board of Trustees of which Irving S. Olds is Chairman, in a resolution dated February 6, 1958, expressed its grateful appreciation to the Trustees of the Alfred P. Sloan Foundation for their recognition "of the unusual service

which The Cooper Union has performed for its community since its founding in 1859"; and for the Foundation Trustees' support "of The Cooper Union's aims to offer, through improved educational plant and facilities, even more significant service in the future."

UNITED ENGINEERING CENTER

In January 1958 the Foundation made a grant of $100,000 to the United Engineering Trustees, Inc. to assist in the construction of the new Engineering Center to be located in New York City at First Avenue between 47th and 48th Streets. This was one of many gifts made by foundations and industrial corporations which it is anticipated will provide half of the $10 million which it is estimated the new Center will cost. The remaining half of the funds are to come from the existing assets of the organization and from pledges by the various engineering societies to be housed in this new Center. These societies are the American Society of Civil Engineers, the American Institute of Mining Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, and the American Institute of Chemical Engineers. The original building of the United Engineering Societies had been donated by Mr. Andrew Carnegie and is located at 29 West 39th Street in New York.

Cleveland Engineering Society. At approximately the same time the Foundation made the grant to the United Engineering Center it also made a contribution of $5,000 to the Cleveland Engineering Society to assist that organization in developing a new engineering and scientific center. The new center, to cost about $1.5 million, is designed to house and administer the activities of the Society, which has been in existence for more than three quarters of a century, and to provide facilities for more than fifty affiliated engineering and technical groups in the Greater Cleveland area.

Fellowship Program for Visiting Scientists and Engineers

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DURING THE SUMMER OF 1957, the authorities at the Massachusetts Institute of Technology presented the Foundation with a plan to establish a series of fellowships for graduate scientists and engineers coming to Cambridge from outside the United States and sought Foundation support of the plan. MIT's new School for Advanced Study had recently been organized and it was intended to use the stipends of the fellowships to bring outstanding scholars from the European Continent and from other parts of the world to the Institute campus to undertake a program of research and study in the new School for a period of at least twelve months.

In the plan which was submitted to the Foundation by President J. A. Stratton, it was anticipated that each recipient of one of the proposed fellowships would have a maximum opportunity to pursue his own special research interests which presumably he would already have initiated and developed somewhat before coming to the Institute. In addition it was anticipated that he would participate in appropriate seminars and conferences at the Institute and attend certain advanced courses. All the work was to be at the postdoctoral level. The fundamental aim of the program was to extend to the proposed fellow such benefits as might be derived from the academic environment of one of America's leading scientific and technical centers and thereby assist him to achieve maximum professional growth. Admission to the program was to be by invitation only, the invitation being extended to the foreign scholar by the Director of MIT's School for Advanced Study, acting on behalf of its faculty. At the outset, at least, it was anticipated that the fellows would come largely from Europe and the British Commonwealth countries. Awards were to range from $5,000 to $7,000 plus travel expenses.

The fellowships were to be known as the Alfred P. Sloan Postdoctoral Fellowships at the Massachusetts Institute of Technology in honor of the President and founder of the Foundation, who is also an alumnus of MIT.

The proposal was accepted by the Trustees of the Foundation and an initial grant of $70,000 was voted in 1957. This was supplemented by a second grant of $70,000 in 1958. The fellowship project itself went into operation during the academic year, 1958-59, fellowships having been awarded to seven scholars from abroad, ranging in age from 24 to 35. Two of these visiting scholars came from the United Kingdom; one from Israel; one from Yugoslavia; one from Australia; one from Japan; and one from the Netherlands. Mathematics was the field of two of the scholars; chemistry of one; physics of one; mechanical engineering of two; and biology of one.

It is the opinion of President Stratton of MIT that this fellowship program will bring some of the world's most promising young scholars in the scientific disciplines to that institution; and that the project will become valuable not only as a major intellectual enterprise but as a program which will serve to extend and cement perhaps the most fruitful kind of international cooperation, that among scholars.

Other Special Teaching and Research Projects in Science

FELLOWSHIPS IN METEOROLOGY— UNIVERSITY COMMITTEE ON ATMOSPHERIC RESEARCH

AMONG THE MORE SPECIALIZED efforts which the Foundation has made during the two-year period under review to assist in various scientific areas, one of the more noteworthy took the form of a grant of $45,000 to be used to supply funds for fellowship stipends for graduate students in meteorology and allied disciplines. The grant grew out of a request submitted to the Foundation by one of the deans of American meteorologists, Dr. Henry Houghton of the Massachusetts Institute of Technology. In presenting the request, he was acting on behalf of all of the university departments in the United States which offer graduate work and maintain significant research programs in meteorology.

During 1957 the heads of these university departments had created an *ad hoc* inter-university committee, known as the University Committee on Atmospheric Research, to promote and expand research activity among meteorologists in major American universities. This committee had come into existence following a report made by a group of scientists under the leadership of Dr. Lloyd V. Berkner to improve training and research in the field of meteorology. Dr. Berkner's group had prepared its report under the nominal sponsorship of the Committee on Meteorology of the National Academy of Sciences-National Research Council. Although the various plans

for developing meteorology as a discipline involved numerous major recommendations, the inter-university committee was of the opinon that priority should be given to the training of graduate students in meteorology and recommended that immediate steps be taken to secure funds for a fellowship program. This was the genesis of Dr. Houghton's recommendation to the Foundation and of the Foundation's grant.

It is intended that the individual stipend under this fellowship program shall not exceed $4,000 and that the fellowship itself shall be tenable at any of the major universities which have outstanding departments of meteorology. Eventually, the *ad hoc* University Committee on Atmospheric Research is to be succeeded by a permanent organization to be known as the National Institute of Atmospheric Research. Research fellowships provided under the Foundation's current grant or under other grants from this or other foundations will be administered by this proposed National Institute or by some related body which has a legal personality. Until such legal entity comes into existence, the Massachusetts Institute of Technology has agreed to accept the funds for this new national program for atmospheric research and nominally to disburse them with the understanding that this responsibility will be transferred to an organization of professional meteorologists as soon as one is legally created.

Initial stipends under this fellowship plan are to be awarded for work at the various universities beginning with the academic year, September 1959.

GRANTS FOR TEACHING ASSISTANTS– CALIFORNIA INSTITUTE OF TECHNOLOGY

Another project to expand opportunities for apprentice instructors in science at the university level was undertaken with Foundation support at the California Institute of Technology during 1958. A grant of $10,000, the probable forerunner of several annual grants of the same magnitude, was given to the Institute to permit it to supply special stipends to teaching assistants in its Division of Chemistry and Chemical Engineering for individual research programs to be carried on during the summer months. By freeing the assistant of the other duties during the summer academic recess

and allowing him to concentrate upon his research problem, the supplementary income from this special stipend will enable him to expedite completion of the requirements for his doctoral degree.

Authorities at the Institute advised the Foundation that, because of the growing volume of research fellowships being made available by Government and by industry, young scholars interested in teaching have increasingly experienced a competitive disadvantage in undertaking the usual internship that qualifies for college and university teaching. This pilot project is designed to determine whether the kind of support which it provides for the maintenance of research opportunities in the summer months will serve to equilibrate the relative advantages of a graduate program for young scholars in which training to teach is an objective as well as research.

AMERICAN COUNCIL FOR EMIGRÉS IN THE PROFESSIONS, INC.

In June 1958 the Foundation made a grant of $8,646 to the American Council for Emigrés in the Professions, Inc. of New York to assist that organization in carrying forward a proposed pilot project to give intensive instruction in English to emigré mathematicians, scientists and engineers and to familiarize them with American methods of pedagogy so as to qualify them as promptly as possible to teach their respective specialties in American educational institutions. The grantee organization has been active for some time in counseling emigré scholars, artists and professional people and assisting them in finding professionally acceptable assignments in the United States. Various national educational and research organizations strongly recommended that this special project be undertaken; and the existing shortage of qualified teaching personnel in the sciences underscored its desirability at least as a pilot demonstration.

With the funds provided by the Foundation, the grantee organization arranged for special English and pedagogical instruction at selected universities for approximately twenty scholars, all of them well prepared in certain engineering and scientific disciplines. Some of them came from Latin American countries; most of them came from behind the "Iron Curtain." As of September 1958, fifteen of the scholars who had received this training had already acquired positions on the teaching staffs of as many American

colleges and universities and two others of the original group of twenty were being considered for positions by at least six different institutions.

The Executive Director of the American Council for Emigrés in the Professions is Dr. Else Staudinger. Its President is Dr. Harry J. Carman, formerly Professor of History and Dean-Emeritus of the College at Columbia University.

General Programs of the Foundation Relating to Higher Education

Industry and Higher Education

COUNCIL FOR FINANCIAL AID TO EDUCATION, INC.

DURING THE BIENNIUM under review, the Foundation continued its assistance to the Council for Financial Aid to Education. This agency was incorporated in 1952 to encourage industry to make gifts for the support of higher education. In providing the agency's initial financing the Foundation participated with three other similar organizations, namely, the Fund for the Advancement of Education, which is now a part of the Ford Foundation, the Carnegie Corporation of New York, and the General Education Board. Each of the four foundations made an initial commitment to the Council for a three-year period in the amount of $150,000. This support was subsequently extended for another two-year period at the rate of $50,000 per annum. Although the Council now receives support for certain of its projects and activities from other sources, the four foundations have continued to provide it with basic financial assistance, a new five-year commitment for the Council's work having been made by each of them in 1958. This Foundation's commitment is for $375,000, payable at the rate of $75,000 per annum, the new grant to run from October 1, 1958 to September 30, 1963.

The concept of such a body as this grew out of the initiative taken about a decade ago by certain of the nation's leading industrialists to persuade corporate donors to augment their gifts to higher education. Among those who especially concerned themselves with this problem were Messrs. Irving S. Olds, Frank W. Abrams, Henning W. Prentis, Jr., Walter P. Paepcke, and Alfred P. Sloan, Jr. It was their conviction that it was altogether proper and desirable for private corporate enterprise to lend support to the nation's colleges and universities, particularly to those which were not tax-supported.

Members of the Board of Directors, Council For Financial Aid to Education, Inc.

As indicated on an earlier page of the *Report,* Mr. Sloan, President and founder of this Foundation, has long been an ardent supporter of the view that industry should support education. In various articles and addresses he had identified a variety of considerations upon which the nation's educational institutions might predicate a greater flow of money from corporate industry. One was the obvious reliance of industry upon higher education for its graduates, demand for whom was being constantly augmented because of the increasing sophistication of managerial responsibility and the ever-growing reliance of industry upon scientifically and technologically trained personnel. A second consideration, equally persuasive with him, was industry's reliance upon the universities and the colleges for the kind of basic research, particularly in the physical sciences and in engineering, which provided the foundation for industry's own technical research centers and developmental institutes. Equally important in Mr. Sloan's thinking, as a consideration justifying augmented industrial contribution to higher education, was the conviction that, as corporate industry had expanded and become relatively more important in the nation's life, the management and directorates of large business enterprises had acquired a responsibility to society, part of which involved assistance in the maintenance of such important social institutions as our colleges and universities.

It was Mr. Sloan's conviction, apparently shared by Messrs. Olds, Abrams and other associates who were equally interested in this matter, that the problem of augmenting corporate contributions to industry was primarily a problem of communication. It was believed that, if a better liaison could be established between the colleges and industry, and if industry's boards of directors and its management could be advised as to the precise needs of education and perhaps advised also on ways in which industry could assist education financially, corporate management would quickly augment the contributions it was making to this important segment of our national life.

The Council for Financial Aid to Education was created for the purpose of assisting corporate management to achieve a better understanding of higher education's needs and of advising industry on how aid might be extended and augmented if industry were minded to provide it. Among its formally declared objectives is the basic one of seeking wider recognition of the importance to American business of adequate financial support for

higher education and of advising business concerns and cooperating with them in formulating and carrying out programs of financial aid to higher educational institutions. Its purposes, however, also embrace a broad effort to promote better public understanding in general of the significance of higher education in the development of the nation and in the progress of American business enterprise. It also seeks to assist and cooperate with other organizations having objectives related to its own.

In seeking to promote these objectives, the Council conducts appropriate research studies and publishes and distributes their results. It brings business executives and educators together in national, regional, and local conferences for an exchange of ideas and provides a sort of consultation service for corporations and foundations that are interested in developing a program of giving. In 1957, with the cooperation of the Advertising Council, it undertook, through various national information media, to make a broad appeal to the public for a better understanding of the problems of higher education and of the need for the broadest possible base of private support of colleges and universities.

In maintaining its purely advisory and promotional functions, the Council avoids advocacy of any particular form of financial aid to the exclusion of other forms and it undertakes no operating functions as distinguished from activities that are advisory, informational or promotional. It seeks to avoid competition with other business or educational agencies having broadly similar objectives. It especially eschews any activity that might be interpreted as a solicitation of funds or the acceptance of funds.

During the Council's existence there has been an appreciable rise in the volume of corporate giving to higher education. It is estimated that in 1950-53, private support for higher education from all sources was $339 million. By 1956 the total had risen to $507 million and in 1958 to $525 million. The partial explanation of this rise in private giving was the growth of corporate support which more than doubled between 1950 and 1956, and which by 1958 was estimated to have reached the total of $136.5 million. By 1957 approximately 42 per cent of the largest national corporations had offered some form of financial support of higher education and a growing number of corporations had announced that plans were under study for developing financial-aid programs.

For this growth in private support, the Council's activities are undoubtedly partially responsible. The Council's own report declares that its "program has been influential among business corporations in giving to financial aid to education a respectable standing as 'the thing to do' in their own interests; and this is likely to be of increasing importance during the next fifteen or twenty years." A survey conducted during 1957 among the colleges and universities of the country indicated rather emphatically that, in the opinion of educational executives, the Council was rendering education a valuable service and that it was the consensus of the leadership of these institutions that the work of the Council should be continued and expanded. Overwhelming approval was also given the work of the Council by a very large sampling of the business leaders of the country in an evaluation conducted in December 1957.

To describe its activities, the Council issues information leaflets or bulletins from time to time which can be obtained by directing requests to

Dr. Frank H. Sparks, President, (left) and Mr. Frank W. Abrams Chairman, Executive Committee, Council For Financial Aid to Education, Inc. (right).

the Council's headquarters at 6 East 45th Street, New York 17. Occasionally more significant publications are issued, either in pamphlet or book form. One of its more noteworthy publications, for which the Council was at least indirectly responsible, was the volume entitled, *Fund-Raising for Higher Education*, written by Dr. John A. Pollard, Vice President for Research for the Council, which was published by Harper and Brothers in 1958.[1] One of the Council's most valuable publications is a loose-leaf compilation of detailed descriptions of aid-to-education programs in force among some of the nation's leading business concerns.

A board of 27 directors supervises the operations of the Council. The Board consists of some of the nation's leading business men and philanthropists and of heads of various colleges and universities. The Chairman of the Board is Irving S. Olds, former Chairman of the Board of the United States Steel Corporation. The Chairman of the Executive Committee of the Council is Mr. Frank W. Abrams, former Board Chairman of the Standard Oil Company (N. J.). Dean Courtney C. Brown, of the Graduate School of Business at Columbia, serves as Treasurer. The Council's first President was Dr. Wilson Compton, former head of the State College of Washington. Upon his retirement, in June 1957, he was succeeded by Dr. Norman P. Auburn, President of the University of Akron, who held the title of Acting President of the Council until February 1958. At that time Dr. Frank H. Sparks, former President of Wabash College, became the Council's President. Staff members besides Dr. Pollard, previously mentioned, include Eldredge Hiller, Vice President, Public Information; Kenneth G. Patrick, Vice President, Corporate Relations; and Francis C. Pray, Vice President, College Relations.

THE INDEPENDENT COLLEGE FUNDS OF AMERICA, INC.

Since 1953 the Foundation has been interested in still another national movement to increase financial support for higher education. This is The Independent College Funds of America, Inc. The predecessor of this organization, that is, the Commission on Colleges and Industry of the Association of American Colleges, was given limited assistance in its pioneer effort to supply a national instrument for encouraging corporation giving to higher education. Efforts along this line were initiated by Dr. Frank H. Sparks,

[1] 255 pp., Harper and Brothers, New York

at the time President of Wabash College, and Mr. H. E. Hastings, Jr., who is currently Executive Secretary of the Associated Colleges of Indiana. Between 1953 and 1958, the Foundation committed approximately $55,000 to provide such initial support. Generous additional assistance was given the Commission by various corporation foundations, notably by the following: Standard Oil Foundation, Inc. (Indiana); the United States Steel Foundation, Inc.; the College Life Insurance Company of America; the General Foods Fund, Inc.; the General Electric Educational and Charitable Fund; and the Union Carbide Educational Fund.

With the proceeds of these gifts, the Commission on Colleges and Industry established a special national fund in 1956 into which general contributions could be made by industries that did not wish to earmark their gifts for any particular institution or for institutions in any geographic section. Donors to the fund could nevertheless direct that the proceeds of their gifts should go to specific colleges or to specific types of colleges. Contributions made to this fund, without designation as to the ultimate beneficiary, were distributed among the various State and regional college associations, now (1959) 40 in number and including in their ranks more than 460 privately-financed institutional members. These then made final distribution of the proceeds among their member educational institutions according to whatever formula of distribution had been previously approved. In addition, the Commission on Colleges and Industry rendered certain advisory services to the State and regional college associations, serving them as a clearing house for materials of interest to industry and the colleges, sponsoring and often financing special conferences or workshops, and developing appropriate periodicals and directories of the State and regional associations of colleges.

Experience indicated that these various special services of the Commission and especially its so-called national fund, were of considerable value to the various State and regional associations. Accordingly, early in 1958, following discussions held at the convention of the Association of American Colleges at Miami Beach, and a special meeting held at Chicago in May 1958, plans were made for establishing a permanent national office for the State and regional associations to administer the services rendered by the Commission on Colleges and Industry. This office was subsequently set up in New York City. Dr. Gerald Burns, formerly Vice President of Reed College, was appointed the Executive Director, and Dr. Carter Davidson, President of

Union College, who had been Chairman of the Commission on Colleges and Industry, became the first President.

The new national office is to be known as The Independent College Funds of America, Inc. It will operate under the direction of a board of trustees composed of 65 college presidents, State association directors and business executives. To assist in the launching of this new enterprise, the Foundation made a grant in May 1958 in the amount of $10,000. Additional financing will be sought from other foundations particularly from some of the industrial foundations which supported the predecessor organization. At least one half of the administrative costs of the national office will be defrayed by the various member State and regional associations. In due course, it is anticipated these member associations will become the principal, if not the exclusive, support of the new agency.

In announcing its plans, The Independent College Funds of America, Inc. stated that it proposed to secure greater national identity and prestige

Dr. Gerald Burns, Executive Director, and Dr. Carter Davidson, President, The Independent College Funds of America, Inc.

DR. GERALD BURNS

DR. CARTER DAVIDSON

for the efforts of private colleges and universities in making financial appeals to industry both on a regional and national basis. Other objectives of the new organization will be those of encouraging cooperation among the various State associations and conducting research and disseminating information.

It is intended that The Independent College Funds of America, Inc. will function at the national level solely for the benefit of the State and regional college associations. It will represent these State associations and be controlled by them and will not be an independent office to direct them or to compete with them.

In the period from 1950 to 1958, when the State and regional associations grew in number from three to forty, the amount these associations have raised from industry has grown from less than $100,000 per annum to approximately $8 million per annum. The number of individual donors has risen in that period from about 40 to more than 7,600.

Alfred P. Sloan National Scholarship Program

THE NATIONAL SCHOLARSHIP PROGRAM continues to be the Foundation project which provides the most systematic and most extensive assistance to a considerable institutional segment of higher education. The program was inaugurated in 1953. Because of changes which have taken place during the past two years, both as respects the number of institutions awarding scholarships and as respects the number of scholarships authorized by the Foundation, the program now embraces 32 colleges, universities and technological institutions in the United States and makes provision for scholarship stipends for more than 450 young men. Six of these institutions are State universities, namely, the Universities of California, Illinois, Michigan, Minnesota, Wisconsin and The Ohio State University. In these, at least for the time being, the scholarships are limited to the last two years of the baccalaureate program.

Eight technological institutions, some public and others private, also participate in the program. Eighteen other universities and colleges, all of them privately supported, complete the roster of institutions participating in the program. In each of these twenty-six institutions the scholarships apply for an entire four- or five-year baccalaureate program. The following are the twenty-six technological institutions and private colleges and universities: Albion, Amherst, Antioch, Bowdoin, Brown, California Institute of Technology, Carleton, Carnegie Institute of Technology, Case Institute of Technology, Colgate, Cornell, Dartmouth, Georgia Institute of Technology, Johns Hopkins, Knox, Lehigh, Massachusetts Institute of Technology, Notre Dame, Oberlin, Occidental, Purdue, Stanford, Vanderbilt, Wabash, Whitman and Williams.

When the scholarship plan was introduced in 1953, the Foundation made the basic decision that the scholarships would be awarded to students by the participating colleges and universities and not by the Foundation. Indeed,

it was decided that the entire administrative procedure for considering applications, testing the applicants, and making the awards, should be placed in the hands of the institutions. This original decision has not been modified as the program has expanded. It is perhaps unnecessary to add that each institution is also wholly responsible for each scholarship holder which it enrols, and that it continues so during the period of his attendance and his work toward a degree, the institution having the discretion of changing the stipend of a scholarship during the normal four-year baccalaureate period and, when justified because of poor academic work, or other good reason, to withdraw the stipend from a student altogether.

The Foundation's responsibility for this enterprise, which is now vested in a member of its staff bearing the title "Administrator of the Alfred P. Sloan National Scholarship Program," is limited largely to providing ap-

Guest speakers at the sixth annual Sloan National Scholarship Program Conference held at The Homestead, Hot Springs, Virginia, July 10 and 11, 1958: Mr. Roy E. Larsen, Board Member of the National Citizens Council for Better Schools, and Dr. Lee A. DuBridge, President of the California Institute of Technology.

ROY E. LARSEN

LEE A. DUBRIDGE

propriate publicity for the scholarships in the schools offering them and to the maintenance of appropriate liaison with the stipendiaries and with the administrators of the scholarship project in the 32 institutions.

Stipends awarded under the scholarship program range from a minimum of $200 to a maximum of $2,000. In exceptional circumstances, the maximum may be exceeded. Those students who are given the minimum award of $200 need not prove financial need but must furnish evidence of exceptional academic achievement and must have demonstrated an unusual capacity for leadership in preparatory school. Those students who receive stipends above $200 must prove financial need in addition to satisfying the academic and personal qualifications required of a successful applicant for a scholarship. The plan also calls for special supplementary grants to the privately-financed academic institutions to defray, at least in part, the cost of the scholar's education above and beyond what he actually pays the institution in tuition and fees.

Virtually all of the colleges and universities participating in this scholarship project require applicants for admission to take the entrance examinations administered by the College Entrance Examination Board. The scores supplied from these examinations are taken into consideration in determining whether an applicant who has been admitted to an institution participating in the Sloan Program also qualifies for scholarship assistance. In determining the economic need of a successful applicant for a scholarship under the program, most of the participating institutions require the student's family to furnish appropriate data to the College Scholarship Service at Princeton. This agency then supplies the particular institution with an appraisal of the applicant's economic need and this appraisal serves as one of the yardsticks used in determining the actual stipend to be awarded.

By June 1958, the first two groups of Sloan National Scholars had been graduated from their respective institutions. Nineteen were in the first graduating class and thirty-nine were in the second. It is anticipated that in June 1959, some 88 additional young men will join the growing body of Sloan alumni, these receiving degrees from 17 institutions.

The great majority of the Sloan National Scholars who have received their baccalaureate degrees are currently engaged in graduate work in

engineering or one of the sciences. A few are attending professional schools of law or medicine and some are employed in industry or are in the armed forces. A number of those who have gone on to graduate work have received graduate fellowships. One is a Rhodes Scholar. Another is a Woodrow Wilson Fellow. Two of the graduates have received Fulbright awards. At least three have received fellowships from the National Science Foundation. Others are being assisted by the E. J. Noble Foundation and by grants from the Atomic Energy Commission. At least four have combined their work toward an advanced degree with an appointment as a part-time teaching assistant in certain technical institutions.

Approximately 420 young men have been enrolled in the first six annual groups which have matriculated since 1953. These students were selected by their various colleges and universities from a rather small number of preparatory schools. For example, sixty-six students came from twenty-seven schools. Six were graduated from Phillips Academy in Andover, Massachusetts. Four came from the Baltimore (Maryland) Polytechnic High School, while an equal number came from the Evanston (Illinois) Township High School. Four high schools graduated three men each who later became Sloan National Scholars. They were: the Acalanes Union High School in LaFayette, California, the Bellevue (Washington) High School, the Mount Lebanon High School in Pittsburgh, Pennsylvania, and the Shaker Heights (Ohio) High School. Twenty other schools have each provided two scholars.

Despite this concentration of the preparatory schools from which the Sloan National Scholars have been chosen, their roster represents the great majority of the States of the Union. As of September 1958, some 358 students were actually enrolled as Sloan National Scholars. These young men came from 42 States and from the District of Columbia. The largest State contingent was 44 from California. Illinois provided 36 and Ohio accounted for 35 Sloan Scholars.

Participants in fifth annual Conference of Sloan Scholarship Program, July 18 and 19, 1957, Hot Springs, Virginia, (top): Mr. Joseph Allen, Administrator of the Alfred P. Sloan National Scholarship Program (center); Members of the second graduating class of Alfred P. Sloan National Scholars (bottom). The students were enrolled at the following institutions: California Institute of Technology, Carnegie Institute of Technology, Cornell University, Dartmouth College, Massachusetts Institute of Technology and Stanford University.

The Foundation's commitment for its Alfred P. Sloan National Scholarship Program at the end of 1958 was in the neighborhood of $1.85 million. It is estimated that, when the Program is in full operation, the commitment will rise to approximately $1.9 million and that an annual cash outlay of approximately $800,000 will be made to finance the stipends, special college grants and administrative expenses of this operation. As indicated earlier when this point is reached, in 1961, it is estimated that about 450 young men will be receiving assistance under this project during any four-year period.

Plans recently announced by the Federal Government to supply loans to students in the nation's colleges may eventually change somewhat the nature of this Foundation-supported scholarship project in 32 of the nation's leading educational institutions. According to announcements from the Department of Health, Education, and Welfare, the original federal appropriation for college loan funds in the National Defense Education Act, amounting to somewhat over $47 million, was almost wholly allocated early in 1959. There is consequently a fairly clear indication that the nation's colleges plan to make loans to students a part of the future financing of higher education. Should this become the case, it may result that the stipends of scholarships such as those provided by this Foundation may be reduced somewhat and perhaps supplemented by loan funds.

Currently it is the policy of the Foundation to adjust its grants to the participating institutions in order to accommodate rather frequent and quite sizable increases in tuition. If continued inflationary trends and the apparent policy of the private colleges to bring tuition closer to the actual cost of education continue, it may well be that the Foundation will find it necessary to discontinue the policy of absorbing tuition increases in its scholarship grants, keep stipends under this program close to present levels, and encourage the institutions awarding stipends to supplement them with loans to students. The situation is fluid as of the moment and no decision has been taken by the Trustees. There is, however, a clear need to adjust scholarship programs of the kind described in this *Report* to changing policies in financing higher education in the United States and to meet such new developments as the Government's policy of encouraging and helping to finance loans to college students.

Other Projects Relating to Higher Education

SCHOLARSHIPS FOR SPECIAL PURPOSES

GRANTS HAVE BEEN MADE during the biennium for a variety of special scholarship projects outside the Foundation's National Scholarship Program. In virtually every case these projects are designed to take care of special situations. The paragraphs which follow will identify the institutions receiving these grants and the nature of the special scholarship projects which they administered.

Colby College, Waterville, Me. For a number of years, the Foundation has been supplying scholarships at Colby College. In 1956-1957 the Foundation made grants to Colby totaling $4,200 for the maintenance of two four-year scholarships at that institution.

The Institute of International Education, New York, N.Y. In response to a request from the Institute of International Education and the World University Service, a commitment in the amount of $10,000 was authorized by the Foundation's Trustees to assist these two organizations in supporting refugee Hungarian students who sought to continue their studies in certain engineering and scientific disciplines at American universities. The commitment, made in May 1957, was used to supply stipends ranging from $100 to $1,200 to finance the work of twelve Hungarian students at some eleven American universities. Two of the students continued work in architecture begun in Hungarian universities; one continued his work in chemistry; two in nuclear physics; and the remainder in one or another of the various engineering disciplines.

Massachusetts Institute of Technology, Cambridge, Mass. Related to the project just described was another at the Massachusetts Institute of Technology which sought to assist certain refugee Hungarian students to continue their work at that institution. Administrative responsibility for the project was assumed by a student committee at MIT although formal responsibility vested in the institution itself. Both the Institute and the MIT student committee offered various facilities in kind to accommodate the Hungarian students. The Institute agreed to supply free tuition if the MIT student body raised as much as $800 for each refugee student which MIT found

qualified for admission up to a maximum of ten students. The Foundation supplied the project with $4,000, the MIT students having agreed to raise an additional $4,000, thereby meeting the condition which had been established by MIT for offering free tuition to as many as ten students.

Knox College, Galesburg, Ill. Grants in the amount of $10,000 per annum have been continued to Knox College to support that institution's special scholarships for selected students majoring in science and mathematics. These sums are in addition to those contributed for the maintenance at Knox College of students enrolled in the Foundation's National Scholarship Program. Scholarships within the institution are awarded in a special intramural competition to students interested in the fields of biology, chemistry, mathematics, and physics. At the present time, some 26 students enrolled in the College and taking one of the scientific disciplines are supported in part by funds from this special grant.

The Worcester Foundation for Experimental Biology, Shrewsbury, Mass. This is a project to finance scholarships for a special science summer program conducted by the Worcester Foundation for Experimental Biology in conjunction with St. Mark's School of Southborough, Mass. Two grants were made by the Foundation, one in 1957 and one in the following year, each in the amount of $5,000. The Director of this project is Dr. Frederick R. Avis. As a result of the Foundation's gift, Dr. Avis and his associates were able to provide scholarships for experimental summer work for some twenty to twenty-five high school students. One of the major purposes of this project is to give young people who are already motivated toward science an understanding of the kind of experimental and research activity which they might undertake in college and beyond if they were to become interested in a scientific career.

ASSOCIATION OF AMERICAN COLLEGES– NEW HEADQUARTERS BUILDING

Early in February 1958, the Foundation contributed $20,000 toward the capital cost of a new headquarters building for the Association of American Colleges. Proceeds of the grant were used to renovate the building *(see page at right)* located at 1818 R Street, N.W., Washington, D.C. The grant by the Foundation was made on condition that additional subscriptions be secured from other sources to provide for the total capital cost of the new center. The Foundation made its grant of $20,000 contingent upon

the Association receiving at least $60,000 in additional contributions toward the total required which was about $135,000.

In May 1958 the Foundation was advised that the stipulation which conditioned the Foundation's grant had been met by a contribution of $60,000 from three other sources. Subsequently, the Executive Director of the Association, Dr. Theodore A. Distler, apprised the Foundation that the Association had secured the necessary funds to take over the proposed new headquarters and renovate the building. Dedicatory ceremonies incidental to inaugurating the new headquarters were held on October 5, 1958.

The Association of American Colleges is the national organization of colleges of liberal arts and sciences. Its purpose is to promote higher education in all of its accepted forms and to assist the members of the Association in more effectively achieving their educational ends. The Association has a membership of some 750 colleges and embraces about 95 per cent of all accredited four-year liberal arts colleges in the United States.

COLLEGE ADMISSIONS CLEARING CENTER

In the spring of 1958, the Foundation made a grant of $5,000 to finance an experimental project, the purpose of which was to demonstrate the feasibility of providing a sort of clearing center in which applicants for admission to a particular college, who failed to secure admission, might learn of opportunities for admission to other institutions. The project, known as the College Admissions Center, was set up in June at Glenbrook High School, Northbrook, Illinois, under the direction of Dr. Gary Mills, Director of Guidance at Glenbrook High School.

The Center immediately began the development of a register of qualified high school graduates who, on June 1st, had sought admission to a college but had not yet been accepted. Each graduate, so listed, paid a registration fee of $10. He completed a registration form providing appropriate personal information including a photograph and transcript of secondary-school credits. Directors of admissions of accredited colleges were then invited to examine these registrations and to select students for admission. The experimental Center operated until October 1st.

Representatives of some 85 colleges visited the Center between June and September 1958. In that same period some 1,300 inquiries were processed. More than half of these came from the Eastern section of the nation. During

these same months, 525 registrations were completed. Interestingly enough, of the 138 girls who completed registration, two thirds were in the top half of their respective preparatory school graduating classes; and of the 387 boys who registered, a third stood in the top half of their graduating classes. Of the total registered, more than 95 per cent were invited to enter the freshman class by at least one college and these began attending classes in October in some 168 different institutions.

These data suggest that this type of project can be financed by student fees and that it can supply a service much needed at the present time, not only by applicants for admission to college but by the colleges themselves and by the secondary schools' guidance counselors who are attempting to place their college-bound students. What is rather surprising about the experiment is that the students who had failed to secure admission and who were seeking the services of the Center were, as often as not, highly qualified and had received the very best ratings, both in their high school career and in their admissions tests. Moreover, institutions which indicated they had openings for freshmen included those of every type, even those which are normally besieged by a host of applicants in the spring preceding the opening of the academic period. Apparently, for one reason or another, the list of students admitted by virtually every institution usually shrinks somewhat during the summer and just before the opening of the academic term in the fall. Consequently, almost every institution has some space available for its new freshman class in the weeks just prior to the opening of the academic year.

In a period in which America will be confronted with a demand for higher education which may greatly exceed the available facilities, it is of the utmost importance that every possible step be taken to see to it that its educational facilities will be fully used and that every qualified applicant for higher education is given an opportunity to achieve his goal if the means exist. A project such as the one described above may consequently grow in value over the years as it renders the important "clearing service" which has been described in the preceding paragraphs.

EDUCATIONAL TESTING SERVICE

Early in 1957, the Foundation made a grant to the Educational Testing Service of Princeton, New Jersey, in the amount of $25,000, the proceeds to be applied to the general research program of the donee. Educational Testing

Service decided to apply the funds to a fairly long-term study of the qualities, other than intellectual, which colleges seek in candidates for admission.

The study is a cooperative one involving the Testing Service and eight American colleges and universities. These are Amherst College, California Institute of Technology, Cornell University, Dartmouth College, Massachusetts Institute of Technology, Rensselaer Polytechnic Institute, Rutgers University and Stanford University. An appropriate administrative official of each of these institutions has nominated some forty or more freshman students who, in his opinion, exemplify qualities judged to be important to the study. Thereafter a biographical profile was supplied by the institutions for each of the students thus selected which will provide not only official information on each student given the institution at the time of admission but opinions and observations about the student given by the faculty and administrative staff who observe him and evaluate his performance during his four-year undergraduate career. Through appropriate analyses of these records and various tests, it is hoped that Educational Testing Service will be able to provide a list of criteria other than intellectual which admissions officers of higher educational institutions look for in admitting candidates to their respective institutions. In addition, it is hoped that appropriate tests and measurements for such qualities may be developed and perhaps, also, that the investigation will indicate differences among the cooperating colleges as to the values other than intellectual for which they seek among entering freshmen. The Foundation supplemented its initial grant with one of equal magnitude in September 1958. The study is under the direction of Dr. D. R. Saunders.

NATIONAL CITIZENS COUNCIL FOR BETTER SCHOOLS

During the biennium under review, the Foundation again contributed $20,000 toward the work of the National Citizens Council for Better Schools. This is a successor to the original National Citizens Commission for the Public Schools. According to information filed with the Foundation, it is the purpose of the Council to prepare and disseminate to citizens useful publications on education and continue the National Citizens assemblies which had been initiated by the predecessor Commission. Broadly the Council for Better Schools considers its mission that of encouraging citizens to determine the kind of schools that their community needs and then to move forward to get such schools. Mr. Henry Toy, Jr. continues as President of the National Citizens Council for Better Schools.

Industrial Management and Aids to Professional Education

Projects in Support of Industrial Management and Business Administration

SCHOOL OF INDUSTRIAL MANAGEMENT— MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SINCE ITS INCEPTION, the Foundation has made various grants to support education and research in business management. The largest grant in this field was one in excess of $5 million made in 1950 to finance the establishment of the School of Industrial Management at the Massachusetts Institute of Technology. About half of this commitment was used to purchase and renovate a building to house the teaching and research activities of the new School. The building, located on Memorial Drive in Cambridge, is known as the Alfred P. Sloan Building. At the present time it houses not only the School of Industrial Management but provides quarters for certain research activities at MIT and for MIT's Faculty Club.

The remainder of the grant, payable over a period of ten years, sought to provide basic income for the School's program. At about the same time, by an additional grant, the Foundation set up at the School a fund of $1 million to be devoted entirely to faculty research. The School is allowed to use both the capital and income from this fund for grants to its faculty to carry forward individual and group projects.

Additional commitments have been made to the School in subsequent years, both to assist it in carrying forward its regular research and educational program and also to assist the School in financing the executive development programs described on a subsequent page of this *Report*. Toward the end of 1958, the Trustees of the Foundation made still further commitments to assure the School a basic income necessary to finance its expanding activities.

Scenes at the Fifth Anniversary Convocation of the School of Industrial Management of the Massachusetts Institute of Technology, April 9, 1957. (Left to right) Mr. Sloan, Dr. James R. Killian, Jr., then President of MIT, and Mr. Cleo Craig, Chairman of the Board of the American Telephone and Telegraph Company.

From its inception, the educational program of the School has embraced both undergraduate and graduate instruction. The undergraduate program had had its inception at MIT as early as 1914, when MIT established its so-called Course XV, designed to provide instruction for certain of its undergraduates who sought to supplement their scientific and technological training with courses in industrial engineering and business management. The undergraduate program of the new School of Industrial Management represents an expansion of the curriculum originally embraced in the Institute's Course XV.

The graduate program of the School includes several curricula beyond the baccalaureate degree. In the first place, the School provides for the conventional two-year postgraduate course for graduates of technological institutions and liberal-arts colleges. This leads to the degree of Master of Science in Industrial Management. The requirements for this curriculum are the usual courses and a thesis. Through an arrangement with other Schools at MIT, and particularly with the School of Humanities and Social Studies, regularly enrolled graduate students may proceed toward the doctorate.

A second postgraduate curriculum is the executive development curriculum provided for the Sloan Fellowship project which, as indicated on later pages of this *Report,* will now embrace approximately fifty students. Finally, over the past few years, still another special semi-professional executive development curriculum has been elaborated at the School which is known as the Program for Senior Executives. This is a special ten-week "refresher" type of course for men who have occupied responsible positions in major industries for a considerable portion of their lives.

As a result of these various programs, the School has developed a fairly diversified program of education in management. The program is not only substantively diversified as respects curriculum but it is also diversified in the sense that it appeals to, and satisfies the needs of, different age groups and levels of experience. In its undergraduate curriculum, the School now provides for the needs of young men between the ages of 18 and 22 who expect to enter upon business careers. The conventional graduate program of the institution fills the needs of a more mature level of young men between the ages of 22 and 26 who have come up the academic ladder, whose business experience has been of a transient character, and who wish to cap their undergraduate program with a conventional graduate degree. The third level in this hierarchy of students are those who are admitted to the Sloan Fellowship Program. These, as will be indicated later, are young men between the ages of 30 and 36 who have had an average of ten years of sustained experience in industry. Finally, there are the senior group pursuing the special and relatively brief course already described. Their age level is about 45.

At the end of 1957, authorities at the School estimated that the existing enrolment of students at these various levels was approximately as follows: at the undergraduate level, 230; in the conventional two-year graduate program, approximately 130; in the Sloan Executive Development Program, approximately 35 students; and in the senior executive program, 40. Plans were being made at the end of 1958 to enlarge the School's enrolment in most of these categories. It plans to continue an undergraduate body of some 230 students, but the graduate and developmental programs would be increased considerably. By 1959 it is estimated that the conventional graduate program would enrol some 230 students; the Sloan Program, 48; and the senior executive program, 80. In addition, as indicated elsewhere in this *Report,* the School will also experiment with its first class of Teaching Intern Fellows, bringing to Cambridge some four or five students in this group. Overall enrolment, undergraduate and graduate, will thus rise from about 440 to approximately 620. The School's administration feels that this expansion is essential, especially at the graduate level, because of the extraordinary demand for its various curricula. It is estimated that normally the students accepted for each of the three graduate programs are drawn from pools of candidates which number some five times those actually accepted. Expansion of the resources of the School and the growth and maturation of its faculty make it possible to provide for this expansion at a time when the School approaches the ninth year of its existence.

During 1956 the School celebrated its fifth year of actual operations with a two-day convocation at Cambridge attended by some 500 of the country's outstanding business leaders and by former students. Among the more important papers delivered during this event was one by Professor Jay W. Forrester on "Systems Technology and Industrial Dynamics" and another by Professor Eli Shapiro on "Financial Forces in Industrial Growth." Pro-

fessor Douglas McGregor of the School also spoke on "The Human Side of Enterprise." One of the features of the special convocation was a panel discussion on the role of the corporate director. For this discussion the moderator was Dr. Lyman Bryson and the participants, Mr. Sidney J. Weinberg, Dr. Vannevar Bush, Mr. David Shepard of the Standard Oil Company (New Jersey), and Dean Eugene Rostow of the Yale Law School. The various papers and other proceedings of this convocation were subsequently published by the School under the title, *Adventure in Thought and Action*.

In the plans developed by the late Dr. Karl Compton and Mr. Sloan at the time the School of Industrial Management was organized, considerable emphasis was placed upon the desirability of exploiting in the curriculum and educational policy of the new institution the technological and scientific environment provided by MIT. It was felt that the organization of a management school within the environment of a great technological center might produce both a curriculum and an educational product which would not only be relatively unique but which would supply the kind of potential managerial personnel especially necessary to industry as it comes increasingly to rely upon scientific research and development for its product.

The administrators of the School have not lost sight of this original intention. They have, indeed, made serious efforts to exploit this special position of the School and its educational opportunity along the lines suggested by its founders. Both in its research and educational programs, Dean Edward P. Brooks and the faculty of the School have developed projects which bring together the relatively conventional curricular resources of a school of business and the resources of the engineering and scientific schools and departments of MIT. Joint seminars have been developed with MIT's School of Engineering. Particular efforts have been made by the School to take advantage of MIT's leading position in the field of electronics; and increasing attention has been paid to the use of contemporary computing and data processing machines to supply the techniques and disciplines of managerial and accounting controls for the business world.

Industry's growing social responsibility and the influence wielded by contemporary corporate enterprise beyond its production centers and its market have also strongly influenced the curricular policy at the School of Industrial Management. Disciplines and departments have been added to

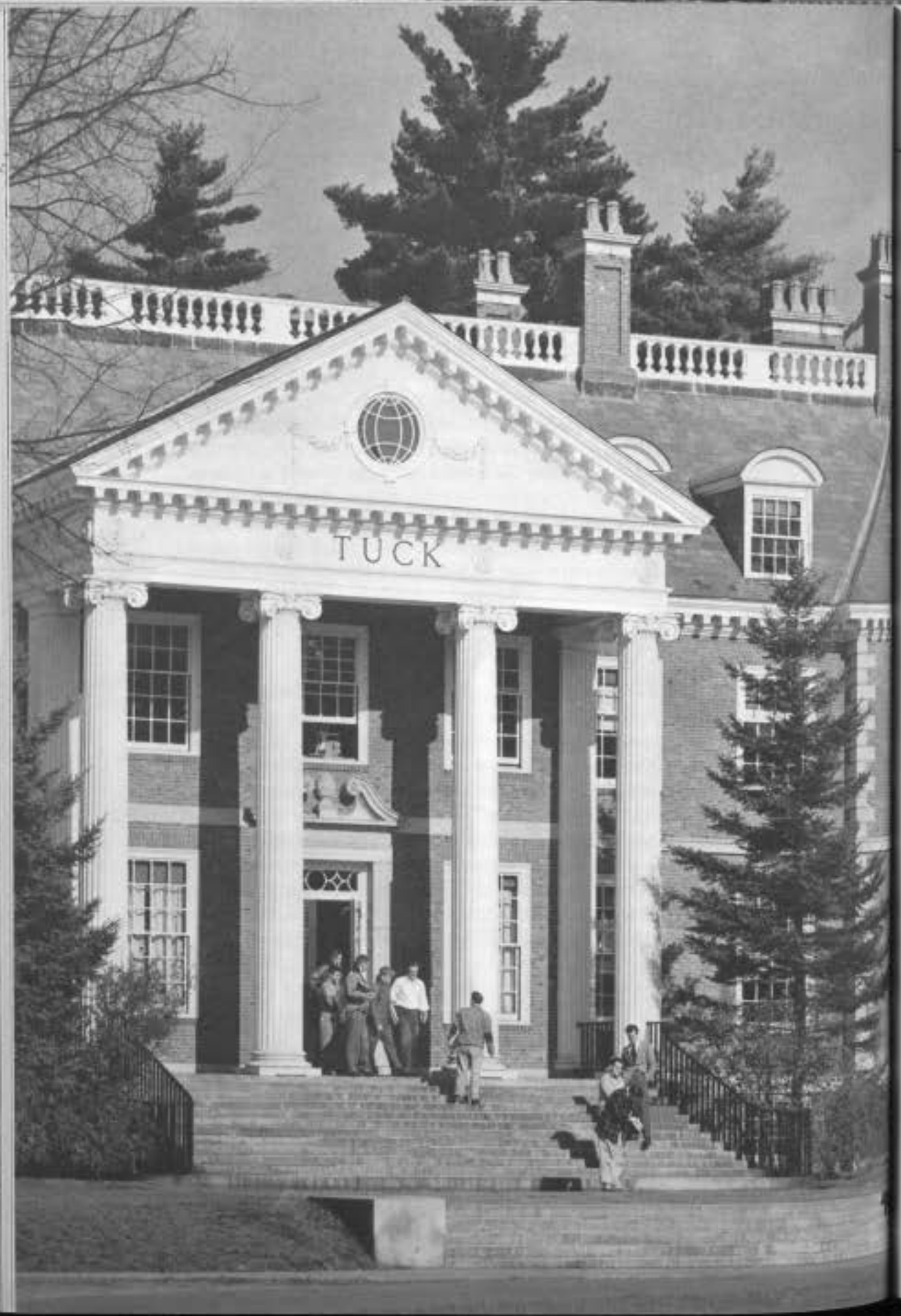
the curriculum which have not often found a place in the conventional program of a business school, the purpose being to provide the student with an understanding of the historical development of economic organization and of the broad civic, social and cultural environment in which contemporary industry operates.

Curricular policy at the School has also sought to avoid too narrow a training. The objective has not been the production of staff specialists. Rather, the objective, particularly in graduate training, has been the education of students in the broader responsibilities of administration. Aspects of production, distribution, finance and accounting, and aspects of personnel administration, among other specific disciplines, are taught with a view to giving students the broadest possible appreciation of the important organizational and operational problems of a business enterprise and of the place of that enterprise in the social structure. Except in one or two established disciplines, the School has not sought to substitute its educational program for the more precise understanding of business operations which come to the student only as a result of experience and the intramural training which actual employment will afford him.

Several major changes have recently taken place in the administration of the School. Professor Eli Shapiro, who, for a time, served as Associate Dean of the School in succession to the late Professor R. H. Robnett, relinquished that position in 1956. Dr. Douglass V. Brown, Professor of Industrial Relations, assumed the position of Acting Associate Dean for the academic year 1957-1958. He was succeeded by Professor Howard W. Johnson, who has assumed this position on a permanent basis. Dean Johnson gave up his directorship of the School's Executive Development Programs and was succeeded in that position by Mr. John M. Wynne. Mr. Thomas M. O'Farrell was appointed Assistant to the Director of the Executive Development Programs. The School has been headed by Dean Edward Pennell Brooks since its founding in 1950.

AMOS TUCK SCHOOL OF BUSINESS ADMINISTRATION–DARTMOUTH COLLEGE

Within the professional area of training for business management, Foundation support was also given throughout the biennium to the Amos



Tuck School of Business Administration at Dartmouth College. Payments to this institution totaled $70,000.

Various articles on economic and business subjects have developed out of the research program of the school which is also partly supported by the Foundation's grants. These articles have been issued as pamphlets, some 20 having been published in the three-year period, 1956-1958 inclusively. Topics discussed in some of the more recently published pamphlets included the following: *The Role of Sales Promotion* by Professor Albert W. Frey; *More for Your Capital Dollar* by Professor John A. Griswold; and *A Tax Program for Small Business* by Professor George E. Lent. The editor of this series of pamphlets on business and economics is Professor Robert S. Burger.

In 1957 the School also published an extensive report of a conference held at Hanover during the previous year. The subject of the conference was "effective communication of economic research." The published report formulated and appraised certain of the views expressed at the conference on the question of effective inter-disciplinary communication in the social sciences and on the question of expediting the dissemination to the general public of the results of economic research.

Faculty members of the Tuck School are currently engaged in a fairly extensive research program. The principal investigations which, in some instances, have already been advanced to the stage of a manuscript relate to the following subjects: countercyclical policies and business decisions; major developments in central banking practices during the past decade; the effect of planned obsolescence on business performance; tax implications of various current and deferred payment plans upon employee and executive compensation in industry; the impact of accelerated depreciation on business finance and accounting; and a special evaluation study of executive development programs in American industry. It is anticipated that the findings of most of these research projects will eventually be published as additional pamphlets in the Tuck series or as books or articles in business periodicals.

The School considers the faculty research activity supported by these continuing Foundation grants of strategic importance in developing new

Classroom and administration building of the Amos Tuck School of Business Administration, Dartmouth College.

knowledge and insights in the various disciplines represented in the School's curriculum and that this activity has made a major contribution to both the methods and the content of the curriculum.

GRADUATE SCHOOL OF BUSINESS– COLUMBIA UNIVERSITY

Some years ago, under the leadership of Dean Courtney C. Brown, the Graduate School of Business at Columbia organized its Affiliated Business Fellows Program. Organizations and individuals accepting membership in this group contribute annually to a fund which is used by the School to finance certain selected research projects and to provide contributions towards a salary fund in the School. During the past three or four years, a number of corporations and foundations have contributed to this fund. In 1957, and again in 1958, the Foundation made grants of $10,000 to this same fund.

Executive Development Programs

SCHOOL OF INDUSTRIAL MANAGEMENT– MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SINCE THE ORGANIZATION of the Foundation in 1934, one of its continuing interests has been the support of training programs for so-called "middle" management in the field of business. Such training programs are nowadays identified as "executive development programs." The first such program, established with the support of the Foundation, came into existence at the Massachusetts Institute of Technology and, except for a brief period during World War II, it has been in continuous operation for more than a quarter of a century. The project, identified informally as the "Sloan Fellowship Program," is thus one of the pioneers among such programs in the country, of which it is estimated there are today some thirty or more in various American university and engineering centers.

In observing this project's 25th anniversary in 1956, the School of Industrial Management at MIT held a special convocation of business and university leaders and an alumni reunion. In compiling the roster of the alumni at that time, it was found that approximately three hundred executives had completed the Program since 1931. Virtually all of these have achieved important, if not distinguished, positions in the middle or top management of major American industrial enterprises. In an article on the Program which appeared in the June 1956 issue of *Fortune Magazine*, Mr. W. H. Whyte, Jr. pointed out that, of the 41 men who completed the Program between 1931 and 1938, 11 had become presidents or vice presidents of their companies at the time the article was written and all the remainder held significant positions in major corporations. Of the 15 men who belonged to the classes between 1939 and 1940, the last classes before the wartime suspension of the Program, two had become presidents of major companies by 1956 and seven had become vice presidents.

The influence wielded by this MIT executive development project upon similar programs throughout the country and the distinguished record of its graduates are in a large measure due to the high standards of selection which have been enforced since the Program came into existence. The MIT faculty invites industry to nominate candidates thereby making certain that those who eventually enter the Program are the product of a careful screening undertaken by their business associates and superiors. Those finally admitted to the course are likely to be among the most promising young men in a particular corporation or a division of a corporation – men who have demonstrated an aptitude for administrative responsibility and who, because of the way in which they are chosen, are motivated to do their best at the Institute.

Another reason for the relative success of the project may be its somewhat unique educational features – unique at least in 1931. The first of these has been the practice of supplementing the formal curriculum by a system of informal seminars held weekly throughout the academic year. These seminars are addressed by business and labor leaders, political figures, and individuals influential in the direction of the nation's affairs. Administrators of the Program have been unusually successful in securing the participation in these seminars of leaders in every walk of life and the Sloan fellows have had an opportunity of conferring weekly with some of America's outstanding administrators and of analyzing ideas with the nation's top leadership.

These informal contacts with non-academic leadership have been supplemented by visits to centers of industry, business, finance and government. On these visits, students in the Program again have an opportunity to meet leaders face to face and hold informal discussions with them. In the course of the calendar year, short visits are made to plants in New England, these being supplemented by extended visits to New York, Washington, and certain industrial centers in the Middle West. About three years ago, the students began to make regular annual visits to Ottawa, Canada, as guests of members of the Dominion Government and it is hoped that, in the near future, visits may also be made by the entire group to certain European financial and industrial centers.

Policies affecting the more conventional academic aspects of the Program have also been somewhat unusual for this sort of academic undertaking and they have likewise contributed to the Program's prestige and success. Basic among these policies was the decision, taken in 1931, to make the period of formal study for each class of students a full twelve months. This decision was not taken without some misgiving. It required the student to be away from his employment for an unprecedentedly long period and demanded a leave of absence for him which his employer often could ill afford to grant him. But the faculty at MIT who originated this Program, led at the time by Dr. Erwin H. Schell, now Professor Emeritus of Industrial Management, felt that the sacrifices thus demanded were justified by the prospective advantages. It was believed that if a student were required to come to MIT for an entire year, he would necessarily move his family to Cambridge and at least temporarily shift the focus of his interest from his employment to the Program. If a real educational experience was to be enjoyed, such a change of focus was deemed essential. A still more important prospective advantage

Sloan Fellows at MIT's School of Industrial Management with Professor Jay W. Forrester (center).

was the possibility that a course of study, twelve months in length, could give the participant something more in the way of a formal curriculum than the kind of refresher lectures and discussions that are not unusual in projects of this nature when they operate for only a limited time.

Because an entire calendar year has been devoted to this Program, MIT has been able to develop a curriculum which has depth as well as variety. The more conventional part of the curriculum encompasses not merely the usual business subjects but offerings in MIT's technical curriculum and many "liberal subjects" such as business history, economic theory, and psychology. The formal curriculum thus provided is a relatively broad and liberal one and consistent with the highest educational standards. Again, because the Program continues for a period even longer than the normal span of the academic year and provides academic instruction in conventional disciplines, it has become possible for those enrolled in it to earn the Master of Arts degree if they care to do so. This is accomplished by supplementing normal course work with a rather extensive thesis. Incidental at first, this graduate academic degree has become a regular objective of most of those enrolled in the Program. In a normal year, only three or four of the usual group of forty students who do not already have such a degree fail to take advantage of the opportunity to earn it.

During the past two decades, approximately one hundred corporations have participated in sending students to this Fellowship group at Cambridge. At the present time, MIT is also offering two or three of the fellowships available in this project to candidates who come from certain departments in the Federal Government. Attempts are also being made to include in each class of fellows two or three young men who come from outside the United States. Normally, it is the large corporations that nominate most of the candidates since they have staffs of sufficient size to make the services of one of their young executives expendable for an entire year. The Program, however, has always sought to encourage representation from small companies and unusual efforts are made by MIT to see to it that smaller concerns are adequately represented in each class.

Of the group of 37 students selected for this Program for 1958-59, some 29 companies, located in some 14 States of the Union and the District of

Columbia, were represented. One member of the group came from Sweden and another from India. A third was a Canadian citizen whose position with an American company required him to have headquarters in the United Kingdom. Four members of the group came from the Departments of the Air Force and the Navy. The Foundation was advised that the class selected for the year 1958-59 was chosen from the largest pool of candidates ever nominated for this project. Since this happened in a period of some business decline, it would appear that whatever difficulties industry may encounter in sending young men to Cambridge for this course, industry is convinced of the value of such a project as this and is willing to make corresponding sacrifices.

Besides denying itself the services of an important junior executive for a year, the corporation sending a man to this Program at Cambridge makes a generous contribution to its support. In the first place, virtually every company "sponsoring" a successful employee-candidate pays that candidate his regular salary while he is at Cambridge. It also pays the cost of removing the young man and his family from his normal residence to Cambridge and subsequently of returning them to their home. Each company also pays a tuition charge to MIT in the amount of $3,000. The contribution made by the Foundation is used to pay the costs of the special aspects of the Program, particularly the visits away from Cambridge and the seminars by visiting lecturers. In addition the Foundation pays for the direct administrative expenses and makes a sizable contribution to general overhead at the Institute. The Foundation contribution also includes a fellowship stipend of $1,000 to each student who is selected for this Program.

Currently the Foundation is expending approximately $177,500 per annum on the project. The Foundation's commitment for this amount, which is an indefinite one, is cancelable on thirty-six months' notice. Plans are now being developed to expand the total number of students in the Program to approximately 50, this group being divided into three separate classes of about 17 men per class. The Trustees of the Foundation have already authorized an expanded commitment to take care of the anticipated increase in the number of fellowship students.

Until recently, Professor Howard W. Johnson had charge of Executive Development Programs at the School of Industrial Management, including

the Sloan Fellowship project. Recently, as indicated on an earlier page, Professor Johnson has taken over the duties of the Associate Dean of the School of Industrial Management and he has been succeeded by Mr. John M. Wynne, himself a former Sloan Fellow.

GRADUATE SCHOOL OF BUSINESS— STANFORD UNIVERSITY

Support of a new program in executive development, comparable to the one at MIT, was undertaken by the Foundation in 1957 when it made a three-year commitment in the amount of $216,000 to the Graduate School of Business at Stanford University. This project at Stanford, known as the Stanford Program in Executive Management, is under the direction of Dr. Paul E. Holden, Professor of Industrial Management.

Except for the fact that the Stanford Program is only eight months in length instead of twelve, there is little fundamental difference between that Program and the one at MIT. Students in the Stanford Program are selected in essentially the same fashion, business sponsorship being necessary. For each student it sponsors in the Program, the employer corporation contributes a program fee of $2,000. The corporation also continues the young man's regular salary, and reimburses him for special expenses incurred in taking up residence at Stanford.

In defining the criteria of eligibility for this Program, the School of Business at Stanford has suggested that candidates be within the age range of 30-37 years and possess a Bachelor's degree and a strong undergraduate record. The School has also indicated that it prefers a candidate who has done a substantial amount of his undergraduate work in engineering and scientific subjects. On the other hand, it will not disqualify a candidate with a purely liberal-arts background. Those admitted to the Program must have had several years of business experience and their record must give promise of a capacity to assume responsibility for leadership and direction.

The Stanford Program has defined certain specific objectives for its course of study and investigation. Among them are a better understanding of the economic, social and political environment of business; a capacity for

considering problems from the standpoint of a company as a whole; the development of managerial skills and techniques through participation in group projects and by leading and participating in discussion groups; and the development of specialized competence in particular areas.

The Stanford curriculum includes not only the subjects normally incorporated in the curriculum of a business school but a variety of seminars conducted by Stanford's faculty of humanities. Subjects embraced in these seminars may relate to philosophy, art and architecture, history, anthropology, literature and political science. The Director of the Stanford Program has sought the participation of the faculty of other schools and departments in the University and of leading management representatives from industry. The Program also emphasizes field trips during which the members of the Stanford group have an opportunity to observe contemporary business practice and to establish direct communication with leading business executives.

Members of the first class, Stanford Program in Executive Management. Inset: Professor Paul E. Holden, Director.

TEACHING FELLOWSHIPS IN BUSINESS MANAGEMENT— STANFORD UNIVERSITY AND MASSACHUSETTS INSTITUTE OF TECHNOLOGY

From the outset, one of the unusual features of the Stanford Executive Management project was the inclusion of a limited number of young men who are seeking their doctoral degree in economic and business subjects and who subsequently intend to pursue an academic career preferably in a business school. Six such pre-Ph.D. fellows were admitted to the first class at Stanford and the practice has been continued. "Business fellows" and "Ph.D. fellows" regularly meet together in seminars to discuss current and future management problems. They participate in a common research project to which each fellow devotes about three fourths of his academic time during the final weeks of the eight-month program. Indeed, the two groups of fellows are encouraged to work together constantly, and share experiences.

Toward the end of 1958, the Foundation made a grant to enable the School of Industrial Management at MIT to develop a pilot project along similar lines. It is intended to bring to Cambridge annually some four or five young men who are within a year of their doctoral degree and who plan to continue in a teaching career, preferably in a school of business. Fellowship awards in the neighborhood of $5,000 or $6,000 are contemplated for each of the successful candidates. They will be in residence in Cambridge and devote a sizable fraction of their time to the completion of the thesis and other requirements for the Ph.D. degree. As in the Stanford project, it is intended that these "pre-Ph.D." fellows will mingle freely with the young men sent by industry to MIT's Executive Development Program, assume the academic responsibilities of the Program and enjoy its privileges.

The first stipends under this teaching intern program at MIT will be awarded early in 1959. The "pre-Ph.D. fellows" will, however, be in residence at Cambridge for fifteen months or three months longer than the conventional "business fellow."

Other Professional Development Programs

ADVANCED SCIENCE WRITING PROJECT— GRADUATE SCHOOL OF JOURNALISM, COLUMBIA UNIVERSITY

In October 1957 the Foundation made a two-year commitment in the amount of $70,000 to establish a series of fellowships at Columbia University's Graduate School of Journalism. Their purpose is to develop writers whose substantive specialty is science and technology and whose primary media of communication are newspapers, press-services, periodicals, and radio and television. Specialists in public relations for industrial laboratories and scientific and medical research institutes are also eligible. The Foundation's grant, which was later supplemented by a still larger commitment for the same purpose from the Rockefeller Foundation, will finance selected reporters and writers who are invited to spend an academic year at the campus at Columbia. Stipends, which may be as much as $7,000, will cover class, tutorial and seminar costs and supply about $550 a month for living expenses.

Dean Edward W. Barrett and Professor John Foster of the Graduate School of Journalism organized this project to meet the growing need of improving communication with the general public on technological and scientific developments. More specific goals of the project, as outlined by those who planned it, are as follows: (1) to increase the number of dependable science and technical writers in the press and other popular media of communication; (2) to assist existing science writers to broaden their knowledge both as to the subject matter of science and technology and as to

writing techniques; and (3) to provide a small but growing number of individuals capable of giving instruction in courses at various universities for writers on science and technical subjects.

In announcing the project to the press, Dean Barrett indicated that it would have the full support of the relevant University faculties. It was also announced that the project had the co-operation of the National Association of Science Writers, the chief professional organization of science writers. In order to integrate this assistance most effectively, Dean Barrett has established an advisory board of some sixteen distinguished representatives of Columbia's faculties of pure science, medicine and engineering, of the National Association of Science Writers, and of various private research organizations.

The first group of six fellows in this project was brought to the Columbia campus in the spring of 1958. Each member of this group was a relatively seasoned writer and had already acquired a considerable professional reputation. Four were reporters and science writers for specific individual newspapers in the United States; two were employed by major wire services, one of them in the capacity of reporter and the other in the capacity of director of a foreign division. It is anticipated that eventually as many as ten fellowships will be awarded annually for this type of work at Columbia. Those selected will be writers who have already developed some scientific interest and have had approximately five years' experience on newspapers, periodicals, wire services or in radio-television. Normally they will be college graduates with some training in science or engineering and they will have demonstrated a serious desire to specialize professionally in the interpretation of scientific data and developments.

The Graduate School of Journalism at Columbia, which administers this project, has been established for more than 45 years. Its program of instruction is entirely at the graduate level. The School's alumni include more than sixty newspaper publishers, some sixty chief editors, more than forty

First class of fellows in science writers project at the Graduate School of Journalism, Columbia University (standing); (seated left to right) Dean Edward W. Barrett, Professor Charles Townes, and Professor John Foster.

magazine editors and several hundred outstanding newsmen. Its alumni also include the heads of many of the nation's schools or departments of journalism.

SLOAN INSTITUTE OF HOSPITAL ADMINISTRATION—CORNELL UNIVERSITY

During the biennium under review, the Foundation continued its support of its single project in hospital administration which was established in July 1955 at Cornell University with an initial grant of $750,000. The project, which came into being after rather lengthy study of existing training programs for hospital management and of extant research programs in hospital administration, is known as the "Sloan Institute of Hospital Administration." For curricular and certain administrative purposes, the Institute forms a part of the Graduate School of Business and Public Administration at Cornell, of which Dr. C. Stewart Sheppard is the Dean. Professor Frederic C. LeRocker, who became Director of the Institute in 1956, was trained in hospital administration at the University of Minnesota. In his career he has combined practical business experience with considerable experience on the administrative staffs of major hospitals.

The first group of seven students was admitted to the Institute in September 1957. Ten more were added in September 1958. Total enrolment in the future will be kept to about 25 students. Unlike most hospital training programs, which are limited to a single academic year, the program at the Cornell Institute continues for a second year, students receiving a Master's degree on completion of the two-year curriculum. Fellowships have been provided for all students enrolled. According to the faculty of the Institute, its training aims are fourfold: (1) to provide basic knowledge and skills common to the best practice of administration in various fields; (2) to impart an understanding of the impact of disease on the individual and society and of the professions and agencies involved in disease prevention and control; (3) to develop analytical ability, powers of self-expression, and the capacity for making good decisions; and (4) to cultivate values which are realistic and socially oriented and also to cultivate in the student a sense of responsibility for professional growth and a desire to make an effective professional contribution.

As already indicated, the Institute's curriculum is closely identified with that of the Graduate School of Business and Public Administration and has its foundations in the curriculum offered by that School. Efforts have also been made to take advantage of other curricular and educational resources afforded by Cornell, particularly those of the other professional schools of the University, including the University's Medical College and the Cornell University-New York Hospital School of Nursing in New York City.

Progress has also been made in the Institute's research program. In a report submitted by the Institute's Director of Research during 1958, various ongoing studies were identified including an investigation of certain phases of hospital management. Consideration was also being given the following subjects: hospital-community relations; the rôle of hospital trustees; regionalization of hospital services and its possibilities; patterns of care for the chronically ill; and hospital standards for New York State.

During 1958 the Foundation made a three-year grant of $100,000 to assist the Institute in organizing a development program for hospital executives, the program to operate during the summer months. In presenting its request to the Foundation, the Cornell Institute suggested that technological and financial innovations are constantly emerging which are changing the working environment in the field of medical care. For various reasons, many hospital administrators and other members of a hospital staff find it relatively difficult to keep abreast of these rapidly changing conditions. A development program, limited to a period of four to six weeks and integrated with the existing formal curriculum and research activities of the Institute, could assist measurably in acquainting administrators with changes and advances in their profession. It was also suggested that the program should be of a seminar type to encourage discussion and two-way communication among those enrolled and between the student and the lecturer.

The first group of twenty hospital administrators invited to attend this summer development program met in Ithaca in August 1958. Discussion related to such topics as public and prepaid medical care in the United States and Canada, chronic disease services, and current legislative proposals affecting the hospital field. Participants in the seminars also considered medical practice in hospitals from the viewpoint of specialists, general practitioners, and full-time clinicians; explored trustee relationships; and ap-

praised the functions of the nurse and technical personnel. Lecturers and discussion leaders at the seminars included Professor Franz Goldmann of Harvard University; Dr. Michael M. Davis, expert on health care organization; Dr. Aims McGuinness of the Federal Department of Health, Education, and Welfare; Professor Chris Argyris of Yale University; Dr. David Littauer, Director of the Jewish Hospital of St. Louis; and various members of the Cornell faculty.

A special committee of leading educators, physicians and experts in the field of management has been established to review the activities of the Institute from time to time and advise it as to program when such advice is sought. Several members of the Cornell University administration and faculties serve on the committee. Other members include Mr. Chester I. Barnard, former president of the Rockefeller Foundation; Mr. Ray E. Brown, Superintendent, University Clinics, University of Chicago; Dr. Robin C. Buerki, Executive Director of the Henry Ford Hospital; Mr. George Bugbee, President of the Health Information Foundation; Mr. Walter S. Carpenter, Jr., Chairman of the Board of E. I. du Pont de Nemours and Company; Dr. Edwin L. Crosby, Director of the American Hospital Association; Dr. Joseph M. Henry, Executive Director of the Rochester Regional Hospital Council; Dr. Jack Masur, Assistant Surgeon General and Director, Clinical Center, National Institutes of Health, U. S. Public Health Service; Dr. Harry N. Pratt, Administrator of the New York Hospital; Dr. Richard D. Vanderwarker, Executive Vice President of Memorial Center for Cancer and Allied Diseases; and Dr. Donald R. Young, President of the Russell Sage Foundation. Mr. Raymond P. Sloan, Vice President of the Foundation, is Chairman of the committee.

MENNINGER SCHOOL OF PSYCHIATRY

A third professional discipline for which the Trustees of the Foundation have been providing assistance in recent years is that of psychiatry. The Foundation's support in this field has been limited to assistance to the Menninger Foundation at Topeka, Kansas. In 1956 a grant was made to this organization in the amount of $150,000, payable over a three-year period, the proceeds to be applied to general support of the teaching program of the Menninger Foundation's School of Psychiatry. At the end of 1958, the

Trustees of the Sloan Foundation acted favorably upon a recommendation to renew the grant to the Menninger School of Psychiatry for another three-year period at the rate of $60,000 per annum. This new commitment of $180,000 was ratified by the Board early in January 1959.

The Menninger School of Psychiatry has become one of the important training centers for psychiatrists in the United States. According to a recent report of the Menninger Foundation, its School of Psychiatry has trained more than 600 physicians since 1933, when the Menninger Clinic was first approved for residency training in psychiatry. The total enrolment in the School of Psychiatry in 1958 was 115. About a hundred of this group were receiving residency training at the Topeka Veterans Administration Hospital, the Topeka State Hospital, and the C. F. Menninger Memorial Hospital, these institutions all being associated with the program of the Menninger School. Fourteen of the group enrolled in the School were on special assignments at Kansas State institutions. They return to Topeka at intervals for additional training.

Proceeds of the Sloan Foundation's original grant and the new commitment may be applied to various aspects of the training program of the School including clinical psychiatry, psychiatric social work, psychiatric nursing, and occupational therapy. The purpose of the grant has been broadly defined as support and improvement of the general teaching program of the School of Psychiatry.

One of the more unusual activities for which funds from the grant have been used has been that of bringing to Topeka, in the capacity of Visiting Sloan Professor, outstanding scholars in various fields related to the Menninger School's general curriculum. These Visiting Professors may spend as little as two months and as much as two years on the grounds of the Menninger Foundation where they deliver special lectures, conduct seminars among the student physicians, meet with student physicians in informal discussion groups, and present papers or make addresses at meetings of scholars. According to Dr. William C. Menninger, General Secretary of the Menninger Foundation, this Visiting Professor project has helped considerably to enrich the offering of the School.

Among the physicians and scholars who have held this kind of appointment for varying periods at the School since March 1957 are the following: Dr. Earl Bond, past president of the American Psychiatric Association; Dr. Seward Hiltner, Professor of Pastoral Theology, University of Chicago; Dr. Norman Reider, Chairman of the Education Committee of the Psychoanalytic Institute of San Francisco; Dr. Richard M. Hewitt of the Mayo Clinic; Dr. Hans Hoff, Head of the Department of Neurology and Psychiatry at the University of Vienna; and Dr. Derek Richter, Director of the Regional Neuropsychiatric Research Centre, Whitchurch Hospital, Cardiff, Wales. Others of equal stature have already indicated their intention of accepting an appointment for a brief period at the Menninger School.

Popular Education and Public Service Projects

Publications of the Institute of Economic Affairs

NEW YORK UNIVERSITY

A PROJECT OF MAJOR SCOPE which continues to receive substantial support from the Foundation embraces various publications produced and distributed by the Institute of Economic Affairs of New York University. The most important of the publications of this project is *Challenge* magazine, which has been appearing regularly under that name, or under its earlier name of *Popular Economics,* since 1950. The magazine has a "pocket-size" format containing a minimum of 80 pages and, whenever the entire issue is devoted to one general theme, 96 pages. It is published monthly except for joint June-July and August-September numbers.

It was originally intended that *Challenge* magazine should deal exclusively with matters of an economic nature. This policy, however, has been relaxed somewhat, and it is today more broadly concerned with public affairs in general. Even so, the primary concern is with various aspects of the nation's economic life and with American economic policy abroad. Typical recent issues include articles devoted to the general subject of inflation; Western Europe's efforts to overcome its energy deficit; foreign capital in the United States; agricultural surpluses; factors that promote economic expansion; tax policy in the United States; the economics of medical research; and expanded health services. In recent months the magazine has sought to provide extrapolations in various areas identifying probable developments in the United States during the next decade. This has been done in the fields of communications, medical research, health services, taxation, both state and local, the food supply, income, consumption habits, decentralization of industry, science, and housing, among others.

Another important feature serialized over a two-year period has been a presentation of the history of economic thought, published under the general title of "Man and the Economy." Most recently the magazine has begun to

A series of recent issues of Challenge magazine and other publications of the Institute of Economic Affairs at New York University.

feature a monthly study of the development of the American economy under the general title of "The Permanent Frontier." Of the occasional issues devoted entirely to a particular economic theme, the most recent one concentrated on the institutional and behavioral developments of the "New Capitalism" in the United States. Another major feature of the magazine which has developed in recent years is printed interviews with specialists, the subject of the interview being some matter of major current public importance. During 1958, interviews with the following were published, among others: J. Burke Knapp, Vice President of the International Bank for Reconstruction and Development, on the role of the World Bank; Guy Suits, Director of Research for the General Electric Company, on the economic results of industrial research; Lord (Viscount) Beveridge, of the British House of Lords, on the welfare state; Percival F. Brundage, at the time Director of the Federal Bureau of the Budget, on the national budget and defense; Ludwig Erhard, German Minister for Economic Affairs, on why the free market economy works; Roger M. Blough, Board Chairman of the United States Steel Corporation, on how business can avoid recessions; and C. Douglas Dillon, Under Secretary of State, on the economics of the nation's foreign policy. The magazine has sought to open its columns to academic as well as professional writers. One of its aims is to attempt to communicate the results of academic research in the economic area to the general public. The majority of its articles are prepared by professional writers in the field of public affairs.

Challenge magazine is distributed to regular subscribers at a subscription rate of $2.50 per year. Besides the individual subscribers, who constitute more than half of the total, the subscription lists include schools and colleges, various kinds of public welfare and professional organizations, and libraries, both academic and professional. Income from subscriptions supplements the grants from the Foundation in paying costs of publishing, printing and distributing the magazine. The current subscription list totals about 17,000 names.

In 1957, under a contract with the United States Information Agency, the Institute of Economic Affairs began to publish on a bi-monthly basis a 72-page International Edition of *Challenge* in English. The contract with USIA, renewed during 1958, provides that at least 10,000 copies of each of the six issues of the magazine shall be distributed through the Information

Agency's eighty-eight posts located all over the world. The purpose of *Challenge International* is to explain to overseas readers the nature of the American free enterprise system and the economy based upon that system. Most of the material incorporated in the International Editions has appeared previously in the domestic editions, but is brought up to date before being reset. Through 1958 there have been ten issues of *Challenge International*, and reaction abroad has been very favorable.

Still a third publication of the Institute is its Popular Economics booklets. These are printed occasionally. Sometimes they are reprints of material that has appeared in *Challenge* magazine; at other times they are entirely new material. These booklets generally contain twelve pages, printed in two colors and attractively designed with art and display type. The broadest readership for Popular Economics booklets is among industrial workers and students in the secondary schools. During the biennium, several of these booklets were published by the Institute, and they achieved a distribution in the neighborhood of a million copies. Among the titles were the following: *Automation Not So Automatic; The Meaning of Profits; Personal Freedom and Labor Policy;* and *The Shorter Work Week*. Other organizations and publications likewise reprint and distribute articles originally published in *Challenge* magazine, and this accounts for a subsidiary distribution of many hundreds of thousands.

During 1957 the Institute of Economic Affairs reports that, it engaged in fairly extensive joint efforts with other organizations also interested in the field of adult education. These joint efforts embraced association with the Joint Council on Economic Education and the Calvin J. Kazanjian Economics Foundation. The arrangement with the Joint Council has resulted in very extensive distribution of certain issues of the magazine, particularly to workshops for teachers and laymen conducted from time to time by this organization.

In recent months, the Institute has been experimenting with the production of a twice-monthly newsletter entitled, *Economic Affairs*. Several issues had been prepared and distributed on a trial basis by the end of 1958. The newsletter embraces material devoted to international economic affairs, as well as important market, financial, economic and political developments on the domestic scene.

The Foundation grants to the Institute of Economic Affairs during 1957 and 1958 averaged about $135,000 per annum. As indicated earlier, receipts from subscriptions were also applied to the operations of the project. The Executive Director of the Institute and Editor of the various publications is Mr. Haig Babian. A committee of University faculty and administrators exercises general control over the policy of the Institute and its various publications. Dr. Harold O. Voorhis, the University's Vice President and Secretary, Dr. Arthur L. Brandon, the University's Vice President for University Relations, and Professor Richard Girard of the Department of Economics, serve on this committee. Professor Harold F. Clark of the Department of Economics, Teachers College, Columbia University, serves as consultant. The editorial offices of the Institute are located at 475 Fifth Avenue New York 17.

Public Service Awards Projects

AUTOMOTIVE SAFETY AWARDS – AUTOMOTIVE SAFETY FOUNDATION – NATIONAL SAFETY COUNCIL

AWARDS TO THE BROADCASTING, advertising and allied industries were made for the tenth and eleventh times during 1957 and 1958 under a program initiated in 1948 and administered by the Automotive Safety Foundation, Washington, D. C., and the National Safety Council. The program is known as the Alfred P. Sloan Radio-TV Awards for Highway Safety. The awards are made in recognition of public-service efforts to promote highway safety made by individual radio and television stations, networks, and advertisers. Administrators of this project seek to identify outstanding programs developed by networks and individual stations or by advertisers or their sponsors, the purpose of which is to make the motorist and the pedestrian more conscious of hazards on highways and streets and inform them of means of insuring their personal safety.

Such programs are brought to the attention of juries of experts who, by applying various criteria of excellence and effectiveness, annually select recipients for a citation and the award of a bronze plaque. Consideration is given various factors in evaluating particular programs, notably their intrinsic educational significance, audience appeal, ingenuity and showmanship, and the coverage actually given to safety features during the program's period on the air. All radio and television winners of the National Safety Council's Public Interest Awards for exceptional effort in traffic accident prevention are automatically eligible for consideration for Sloan Automotive Safety Awards.

When this project was originated in 1948, some 50 programs were offered as candidates for the awards. In 1958 this number had risen to 250. The

efforts of the communications industry, which these awards seek to honor, have apparently been of great value in reducing accidents and saving lives on the nation's highways. At any rate the President of the Automotive Safety Foundation recently found it possible to say that, during the past several years, "the public information set-up, particularly as represented by the radio-TV contribution, has been one of the brightest spots in the highway safety picture."

Under the rules which have been developed for this project by the two administering organizations, one Sloan Award may be made annually for a sustaining program and one for a commercial program in each of the following categories: (1) national radio networks; (2) national television networks; (3) regional radio networks; (4) radio stations of 1,000 watts or less; (5) other radio stations; and (6) local television stations. Pedestrian- and highway-safety programs developed and broadcast by educational radio or television stations as a public service have also been given recognition in recent years.

When a particular program is nominated for a Sloan Award, the nomination must be accompanied by various supporting materials, including kinescopes, sample transcriptions, and scripts of individual broadcasts, telecasts or announcements. This material must be supplemented by written statements indicating the variety and number of public-service activities for the promotion of pedestrian safety and the safety of motorists on the highways which the program nominated for an award has supported during a twelve-month period. Nominations must be made early in the calendar year. The closing date is usually February 1st. All entries are sent to the National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois. Entry blanks for making nominations are available from the Council. Awards are presented annually at a dinner held in New York City attended by distinguished representatives of the broadcasting and advertising industries.

Twelve Sloan Safety Awards were made in 1957 and an equal number in 1958. Individual radio stations honored for sustaining programs were Station KSEL, Lubbock, Texas; WLW, Cincinnati, Ohio; WNHC, New

Montage of photographs of ceremonies at the Alfred P. Sloan Radio-TV Awards Dinner for Highway Safety, May 6, 1958.

Haven, Connecticut; and KYW, Cleveland, Ohio. Television stations which were honored for sustaining programs were WWJ-TV, Detroit, Michigan; and WBNS-TV, Columbus, Ohio.

Awards for commercial programs were given to the following individual radio stations: Station KHAM, for a program sponsored by Hedges Oil Company, Albuquerque, New Mexico; Station WWDC, Washington, D. C., for a program sponsored by Montgomery-Stubbs Motors, Silver Spring, Maryland; Station WBLU, for a program sponsored by the Schneider Oil Company, Salem, Virginia; and Stations WTMJ and WISN, for a program sponsored by Allis-Chalmers Manufacturing Company of Milwaukee, Wisconsin. The Esso Standard Oil Company, Sinclair Refining Company, MFA Mutual Insurance Company, and the Metropolitan Life Insurance Company were each given an award for a radio program, supporting automotive or pedestrian safety, which was broadcast over regional or national networks of independent radio stations.

Commercial programs on television received awards as follows: Station WSAU-TV, Wausau, and WBAY-TV, Green Bay, for a program sponsored by Hardware Mutuals, Stevens Point, Wisconsin; the CBS, NBC and ABC television networks, for programs sponsored by the R. J. Reynolds Tobacco Company (two years in succession); and the NBC television network, for a program sponsored by the Aluminum Company of America. The latter was given a special award.

Several awards were given over the two-year period to certain non-commercial stations for important contributions to the safety of pedestrians and motorists. Among these were Station WKAR of Michigan State University; Station WCET, Cincinnati, Ohio; Station WTTW-TV of the Chicago Educational TV Association; and Station WNYC of New York City. In the citation given WNYC, it was stated that 30 per cent of all "spot" radio announcements on highway safety in the New York metropolitan area originated with this station. Both the announcements and certain of the station's special programs emphasized pedestrian and child safety. In 1957 a special award was made to the Armed Forces Radio and Television Service in recognition of the effort made by this unit in seeking to improve safety records within areas where military traffic is of paramount importance. Another special award, in the sustaining category, was made in 1958 to the

Canadian Broadcasting Corporation for that organization's pioneer rôle in alerting Canadians to the importance of a sustained traffic-safety effort. As indicated earlier, the Sloan Award given the Aluminum Company of America in 1957 for its program over the NBC television network was also of a special nature. The award was made because the awards jury considered the Alcoa Hour Program on highway safety entitled, "No License to Kill" the year's outstanding dramatic telecast on the subject of highway safety.

Many distinguished citizens, some of them laymen and others experts in the safety field, served on the awards juries. They included Dr. Kenneth G. Bartlett, Vice President and Dean of Public Affairs of Syracuse University; Mrs. Stephen J. Nicholas, Executive Director of the General Federation of Women's Clubs; William S. Lampe, Secretary, Media Group, President's Committee for Traffic Safety; and Frank C. Turner, Deputy Commissioner and Chief Engineer, United States Bureau of Public Roads. Dr. Ned H. Dearborn, President of the National Safety Council, served as the awards jury chairman.

The plaque given winners of the awards, redesigned in 1955, is the creation of Anthony de Francisci. His works appear in various American and foreign museums, including the Metropolitan Museum of Art and the Museum of the French Mint, Paris. Mr. de Francisci designed the United States silver dollar of 1921 and the American veterans' discharge insigne of World War II.

In congratulating the communications industry at the awards dinner at the Waldorf-Astoria in New York on May 6, 1958, Mr. Sloan commented that, during 1957, the death rate per 100 million vehicle-miles of travel was the lowest in history and that during 1957 there had been 1,150 fewer traffic deaths and some 40,000 fewer injuries than in the previous year. He attributed this improvement to the efforts of radio and television as well as to the efforts of public officials at all levels and of a great number of other groups interested in safety. Mr. Sloan also commented at length upon the importance to the safety program of improving our national system of highways. He suggested that, because of improved engineering and careful attention to safety factors, the new national highway system, now in the process of construction, will undoubtedly contribute toward lowering the number

of casualties on the highways. Similar comments were made at the awards ceremonies by Mr. Harold E. Fellows, President of the National Association of Radio and Television Broadcasters. He declared that it could be truly said "that the nation's broadcasters give no greater attention to the many public-service projects which occupy them than they do to this problem of safety on our highways – because, aware of it through their activities as news media, they are impressed by the need for all-out, full-community effort." He added that "broadcasters surely are qualified in communities throughout the nation in taking the leadership along with the numerous traffic safety organizations spearheading such campaigns to save lives. They could perform no greater service."

During the biennium the Foundation has made some $28,000 in new commitments to support this Sloan Safety Awards project. To continue this project it anticipates making future commitments of the same magnitude to the Automotive Safety Foundation. In addition, during 1957, the Automotive Safety Foundation received $5,000 in the form of a special grant to defray expenses of a conference on highway safety research which was conducted by this organization. Grants to the Automotive Safety Foundation during the biennium therefore totalled approximately $33,000.

CAREER SERVICE AWARDS– NATIONAL CIVIL SERVICE LEAGUE

During 1957 the National Civil Service League enlisted the Foundation's support of its Career Service Awards program. Relatively small contributions had been made by the Foundation to assist the League in initiating this project some years before. Proceeds of current grants of the Foundation are used mainly to defray the expenses of a special dinner held in Washington in the Spring of each year at which the awards are made to the career civil servants and assists also in defraying incidental expenses.

The National Civil Service League is a non-partisan citizens group organized in 1881. It seeks to improve all levels of public service, Federal, State and local. Each year its Career Service Awards are given to some ten employees of the national government in recognition of outstanding service.

In nominating recipients, the League seeks to honor those federal employees who best exemplify the qualities of a good public servant, including competence, efficiency, character, integrity and continuity of service. Among those honored in recent years have been the Director of the Bureau of Engraving and Printing, the principal executive of the government of the District of Columbia, the executive head of the United States Civil Service Commission, and others of equal stature from other divisions of the Federal Government.

The President of the National Civil Service League is Mr. Nicholas Kelley of the law firm of Kelley, Drye, Newhall and Maginnes. The current Executive Director is Mr. Cecil E. Goode. Contributions to the League during 1957-58 totalled $27,500.

Replica of certificate given winners of the National Civil Service League's Career Service Award.


National Civil Service League

CAREER SERVICE AWARD

1959

TO

In Recognition of a Distinguished Career in the United States Government which has Exemplified in an Outstanding Manner the Highest Characteristics of Public Service

NICHOLAS KELLEY
President
National Civil Service League

ROBERT L. JOHNSON
Chairman of the Council
National Civil Service League

DANIEL W. HILL
Chairman, Executive Committee
National Civil Service League

March 2, 1959

Other Public Service Projects

ASSOCIATION OF THE BAR OF THE CITY OF NEW YORK FUND, INC.

IN 1957 THE FOUNDATION made a grant to the Association of the Bar of the City of New York Fund, Inc. in the amount of $21,500 to enable that organization to finance a study on court administration. The proposed study's purpose is to identify some of the reasons for the congestion of court calendars in negligence cases in New York City and suggest possible remedies. The project, which received a grant of equal amount from another foundation, is to be carried on by the Association in cooperation with the Columbia University Project for Effective Justice.

Apparently, the volume of personal injury suits in urban centers is very high and is disproportionately high in a metropolitan complex like New York. The result has been the clogging of civil court calendars and considerable delay in the disposition of the cases. Efforts have been made to solve the problem by speeding up the judicial process. This has been done by assigning more judges to pending cases, by streamlining procedures and by winnowing out unready cases.

In this new study, consideration will be given to the possibility of reducing the actual volume of cases that now find a place on court calendars. Efforts will be made to identify characteristic attitudes of parties to a case, and the practices of members of the bar and representatives of insurance companies in disposing of cases. The research group will seek answers to various questions, among them the conception of the law's function in accidental injury cases, entertained by parties to such cases; whether there is a predisposition to litigation in accident cases; and what deficiencies exist in the practices of the bar and the insurance industry, among others, in handling personal injury disputes and how these may be remedied. An attempt will also be made to measure the effectiveness of the procedure for

handling accident cases through the existing court system as compared with non-judicial procedures, with particular attention to the relative cost of the two procedures to the parties.

AMERICAN BAR FOUNDATION PROJECT

As reported in an earlier biennial *Report* of the Foundation, a grant was made to the American Bar Foundation, Chicago, Illinois, in 1954, to permit one of its research committees to develop a manuscript under the title, "Sources of Our Liberties." This was to be a manuscript embracing the full text of some of the more fundamental historical documents from which have been derived the values and institutions of the American constitutional system.

This manuscript was subsequently prepared and, in 1958, the Foundation made an additional commitment of $10,000 to enable the American Bar Foundation to print, publish and distribute the manuscript in book form. Arrangements have been made with a university press for printing and publication. It is anticipated that the volume, when made available by the American Bar Foundation, will enjoy considerable use as a reference text in libraries and colleges and that it will also be of especial value to the legal profession as a reference volume.

LEGAL AID AGENCIES

During the biennium under review, the Foundation made annual contributions in the amount of $5,000 to the Legal Aid Society of New York. These grants were unrestricted and were given to support the normal program of the local legal aid association.

In addition, in 1958, the Foundation made a special grant of $10,000 to the National Legal Aid Association. This was to supplement grants from other sources to the same organization, the proceeds to be used over a two-year period for the development of an international legal aid association. Among the purposes of the proposed new organization will be compiling and maintaining a directory of public and private agencies in every country which provide legal-aid service in and out of court, of exchanging information concerning the nature and scope of services provided by such organiza-

tions and of international and national legal regulations affecting legal aid in various nations. The new agency will also encourage the establishment of legal aid services in countries where such services may not now exist, or where they have only a limited existence, and cooperate with appropriate bodies in various countries that may be interested in extending and improving defender services and legal counseling to those unable to provide the cost of such services. It is anticipated that the National Legal Aid Association will complete this project within a two-year period.

Other Activities of the Foundation

Economic Education and Research

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

SOME TIME PRIOR to the period covered by this *Report*, the Foundation made a sizable commitment to the National Bureau of Economic Research for the study of trends in real wages and productivity in the United States. In the Bureau's annual report issued in May 1958, it is stated that three of the studies undertaken with the partial assistance of grants from this Foundation are nearing completion. One of these, a manuscript on wages and earnings in the United States between 1860 and 1890, is being prepared by Professor Clarence D. Long. A study of real wages, 1890-1914, being developed by Professor Albert Rees, and a study on productivity trends, 1889-1953, being prepared by Professor John W. Kendrick, are both reaching the stage of a completed manuscript. According to the National Bureau's report, eight chapters of Professor Kendrick's study on productivity had been completed in the summer of 1958. The ninth and final chapter, reviewing more recent productivity changes and discussing the general outlook, was still to be written at that time.

It is anticipated that both the Rees and Kendrick manuscripts will soon be published by the Bureau and that Professor Long's manuscript on wages and earnings will appear some time thereafter.

A critical analysis of cost-of-living indices used in Professor Rees' study suggests that real wages rose more rapidly in the period covered by his study, that is, 1890-1914, than has been suggested heretofore by writers in the field. Professor Kendrick's study indicates that, in the period covered by his report, combined productivity per unit of labor and capital increased at an average annual rate of 1.7% in the domestic economy.

♦ *Montage of laboratory operations in ophthalmological research, Armed Forces Institute, Washington, D. C.* *See page 26.* *(Photographs courtesy of the Armed Forces Institute of Pathology.)*

In April 1958 the Foundation made a grant of $10,000 to the National Bureau to assist it in preparing and publishing a summary of some of the work which has been undertaken by it over the past few years on the subject of productivity. This summary includes various inquiries that have been made in the past and also the work that has recently been done by Professor Kendrick. The summary was prepared by Dr. Solomon Fabricant, Director of Research of the Bureau, and was published at the end of 1958 as *Occasional Paper 63,* under the title, *Basic Facts on Productivity Change*. In the preface to the published report, Dr. Fabricant stresses the importance of productivity in the national economy. He points out that it is a measure of the efficiency with which resources are converted into the commodities and services that men want and that the rate of productivity affects almost every facet of our economy including costs, prices, profits, output, employment and investment. Because of the significance of productivity, Dr. Fabricant states that the Bureau has, for a considerable period, devoted a portion of its efforts to the determination and analysis of facts bearing on this subject. He notes further that much confusion surrounds the concept of productivity in the public mind. Part of this confusion is of a semantic nature, the same term being used to mean different things. An additional reason is defective statistical information. The work of the Bureau, as reflected in Dr. Fabricant's *Occasional Paper,* has gone far to resolve this confusion.

JOINT COUNCIL ON ECONOMIC EDUCATION

Commitments totalling $20,000 were made to the Joint Council on Economic Education in 1957 and 1958. These grants are a continuation of support which was begun in 1956.

The Joint Council, which has its offices at 2 West 46th Street in New York City, was established shortly after the Second World War, some of its original support having come from the Committee for Economic Development and various foundations. During the past decade, it has become one of the nation's principal instrumentalities for improving the understanding of economic life, particularly in the secondary schools. The Joint Council is governed by a board of trustees which is broadly representative of agriculture, industry, labor, education and economic research groups. Its headquarters staff cooperates with a network of affiliated State and regional

councils, each of which is self-supporting and operates under its own board of trustees.

The Council declares that it is primarily a service agency which responds to the requests of schools and higher educational institutions for assistance in planning and administering programs which advance the study of economic problems at the State and local levels. It states further that major emphasis has been given to its program to increase understanding of economic problems and issues on the part of teachers and community leaders.

Of particular note in recent years in the program of the Joint Council has been the organization of workshops on economic education for teachers and other leaders on the campuses of universities and schools and of lecture series on economic problems, most of which were arranged by affiliated State and regional councils. The Joint Council provides groups such as these with appropriate material and leadership. It also seeks to bring the results of investigations of economic research organizations and universities to the attention of the teachers and the general public.

Other Grants

LINCOLN CENTER FOR THE PERFORMING ARTS, INC.

In September 1958 the Foundation's Trustees made an unrestricted grant in the amount of $500,000 to the Lincoln Center for the Performing Arts, Inc. Payments on this commitment will be made over a period of some four years from the date of its authorization.

The Foundation occasionally makes developmental grants; but its regular program has not heretofore included support of the arts and the humanities as one of its aims. In this instance, however, the Trustees felt that an exception should be made because of the outstanding civic and national significance of the Lincoln Center project.

In acknowledging the Foundation's grant, Mr. John D. Rockefeller, III, President of the Lincoln Center, noted that it was an exception to the normal program of the Foundation. He declared that he and his associates felt that the very fact that the Foundation Trustees had made such an exception in the case of Lincoln Center was further evidence of the increasing recognition of the arts as a community responsibility. In his comment, Mr. Rockefeller added that "the arts today are taking their place alongside health, welfare, and education as a concern of all who are working toward the building of a better America."

BOYS' CLUBS OF AMERICA

In May 1958 the Foundation made a capital grant of $50,000 to the Boys' Clubs of America to assist that organization in acquiring and renovating a

new national headquarters building. This building, to be known as the Herbert Hoover National Headquarters Building of the Boys' Clubs of America, will be located at 771 First Avenue, between 43rd and 44th Streets in New York City, opposite the United Nations complex of buildings. At the time the grant was made, the Foundation was advised that the total cost of the capital project will approximate $900,000 and that the new building will approximately double the amount of space presently used by this organization.

Congress gave the Boys' Clubs of America a special charter in August 1956. The organization's prime purpose is to promote good citizenship among adolescents in the nation's less privileged areas. It services boys' clubs throughout the country, assists them in their programming activity, and promotes the establishment of new clubs in various communities. In 1958 it was servicing approximately 500 such clubs which enjoyed a membership of more than 400,000 boys.

ADDITIONAL PROJECTS

On the preceding pages a fairly extensive descripition has been given of the objectives and operations of projects which fall within the Foundation's primary spheres of interest. In this section, a more condensed statement will be made about all other grants made by the Foundation during the biennium. The recipients of these grants are charitable, educational or welfare institutions of established reputation. Normally, the amounts given in any one year do not exceed $10,000. In most instances, a grant is made with the understanding that it will be used to support some specific educational or research activity of the grantee. In such cases the grant's proceeds often supplement funds given at an earlier period by this Foundation or funds contributed from other sources. In other cases the grant is designed to take care of the entire budgetary outlay of a specific project. In still other cases the grant is in the nature of an unrestricted contribution and can be applied by the grantee to its normal budgetary outlays. Contributions of the latter nature are relatively infrequent and because of its general policy the Foundation discourages requests for such contributions. There follows a list of the additional projects to which the Foundation has contributed support during the biennium under review:

Agricultural and Mechanical College of Texas, College Station, Tex.: contribution to a fund to provide a professorial chair in the field of transportation in memory of Thomas H. MacDonald, former director of the Bureau of Public Roads $10,000

Akron, The University of, Akron, O.: to finance an investigation by the president of the University of Russian educational and scientific resources . . . . . $ 6,000

American Assembly, The, Columbia University, New York 27, N. Y.: for the support of future programs of the Assembly . . . $10,000

American Association for the Advancement of Science, Washington 5, D. C.: to assist in financing the Association's "Parliament of Science" held in Washington during March 1958 . . . . . $10,000

American Council on Education, Washington 6, D. C.: to support a conference on the use of television for instructional purposes in higher educational institutions, held in October 1957 at the Pennsylvania State University, University Park, Pa. . . . . $ 5,000

American Craftsmen's Council, New York 19, N. Y.: to assist the Council in carrying forward its program to develop handicraft skills for retired persons . . . . . $ 7,500

American Heritage Foundation, The, New York 36, N. Y.: contribution to the operational budget of the grantee $10,000

American National Red Cross, The, Washington, D. C.: for the general support of the activities of this agency $20,000

Arizona, The University of, Tucson, Ariz.: to permit the University to purchase certain capital equipment for its scientific laboratories $10,000

Berea College, Berea, Ky.: special grant in support of the College's development and building program . . . . . $ 5,000

Boy Scouts of America, Greater New York Councils, New York 23, N. Y.: contribution applicable either to the regular expense budget of the grantee or to its proposed development fund . . . $20,000

Cambridge School of Weston, The, Weston, Mass.: contribution toward the development program of the School $10,000

Carnegie Institute of Technology, Pittsburgh 13, Pa.: contribution to the Institute's development fund $10,000

Clark University, Worcester, Mass.: to assist the University in purchasing certain special equipment for a new science building . $10,000

Colgate University, Hamilton, N. Y.: contribution to a fund to finance an experimental incentive compensation plan for the institution's faculty $10,000

Conservation Foundation, The, New York 16, N. Y.: contribution to the general operational expenses of the grantee $15,000

Cornell University, Ithaca, N. Y.: grant to assist the University's Graduate School of Business and Public Administration to plan and develop a special research program in economics . . $10,000

Council on Foreign Relations, Inc., New York 21, N. Y.: for the support of the general educational and research program of the Council $10,000

Crotched Mountain Foundation, Greenfield, N. H.: contributions to the grantee's building and development fund and its educational program for rehabilitating disabled persons $20,000

Edison Foundation, Inc., Thomas Alva, New York 18, N. Y.: to assist the grantee in distributing copies of a volume on the enrolment of students in engineering colleges in the United States; also to assist the grantee to distribute copies of four different pamphlets on science education among educators, public officials and other interested persons. . . . . $ 5,000

Fairleigh Dickinson University, Rutherford, N. J.: to provide equipment for a statistical laboratory to be used in the University's instructional and research program $10,000

Farmers Federation Educational and Development Fund, Inc., Asheville, N. C.: for support of this organization's training program for staff and field workers . . . . . $ 5,000

Foreign Policy Association, Inc., New York 17, N. Y.: for general support of this organization . . . . . $ 5,000

Foundation for Economic Education, Inc., The, Irvington-on-Hudson, N. Y.: contribution for general support over a two-year period $20,000

Freedoms Foundation, Valley Forge, Pa.: contribution in support of the awards and other educational programs of the Freedoms Foundation over a two-year period $15,000

George Washington University, The, Washington 6, D. C.: to assist the University's Patent, Trade-Mark, and Copyright Foundation to complete a research project on the utilization of patents $10,000

Hawaiian Academy of Science, Honolulu 2, Hawaii: to assist in expanding the Academy's science-education program . . . . $ 5,000

Herald-Tribune Fresh Air Fund, New York 36, N. Y.: for the support of the general program of the Fund . . . . . $ 5,000

High Altitude Observatory of the University of Colorado, Boulder, Colo.: for the general support of the research activities of the Observatory . . . . . $ 5,000

Hofstra College, Hempstead, N. Y.: to finance a special investigation by the College of sources of possible support for a graduate educational program for scientific and engineering personnel in the area which the College serves $10,000

International House, New York 27, N. Y.: contribution over a two-year period for the general support of this organization . . $ 4,000

Massachusetts Institute of Technology, Cambridge 39, Mass.: to assist the Institute in defraying the cost of the 5th Anniversary Convocation of the Institute's School of Industrial Management . $ 7,111

Minnesota, The University of, Minneapolis 14, Minn.: to supplement funds already accumulated by the University for the purchase and installation of a digital computer $10,000

Missouri, The University of, School of Journalism, Columbia, Mo.: for the support of the School's educational program . . . $ 5,000

Museum of Science, Science Park, Boston 14, Mass.: for the support of the educational programs of the grantee $10,000

National Conference of Christians and Jews, Inc., New York 19, N. Y.: for support of the educational and other activities of the donee $10,000

National Foundation for Junior Museums, Inc., New York 16, N. Y.: for the support of the developmental program of this organization . . . . . $ 5,000

National Information Bureau, Inc., New York 17, N. Y.: contribution towards the work of this organization . . . . . $ 1,500

National Multiple Sclerosis Society, New York 10, N. Y.: to assist in defraying the Society's administrative expenses and to help finance its general program of activity . . . . . $ 5,000

National Municipal League, New York 21, N. Y.: for the support of the League's educational activities . . . . . $ 5,000

New York University, New York 3, N. Y.: to finance a research project on enterprise and public administration in Great Britain, research to be conducted under the direction of Professor Marshall E. Dimock of the University; also to finance research into certain aspects of changes in productivity and wage rates, the research to be conducted under the auspices of the University's Graduate School of Business Administration $14,280

Parsons School of Design, New York 22, N. Y.: for the support of the School's general educational program . . . . . $ 5,000

Population Council, Inc., The, New York 17, N. Y.: for the support of the research program of the Council's Medical Division $10,000

Princeton University Press, Princeton, N. J.: contribution toward financing the distribution of a textbook in physics by Professor Eric M. Rogers $10,000

Queen's University, Kingston, Ont., Canada: to finance summer research institutes of the Canadian Mathematical Congress over a two-year period . . . . . $ 8,000

Recording for the Blind, Inc., New York 22, N. Y.: to support the work of the donee in recording textbooks for blind college, vocational and other students . . . . . $ 5,000

Scientific Manpower Commission, Washington 5, D. C.: to defray the expense of publishing the proceedings of a Commission-sponsored conference held at Chicago in November 1957 on the general theme "Engineering and Scientific Education, Foundation of National Strength" . . . . . $ 2,000

Sloan-Kettering Institute for Cancer Research, New York 21, N. Y.: to provide a special research fellowship and travel allowance for one year for a member of the research staff of the Institute $ 4,000

Smith College, Northampton, Mass.: to provide a scholarship for a special student in the College's School for Social Work . . $ 3,643

Stanford University, Stanford, Calif.: for an experimental fellowship project for a limited number of graduates of liberal-arts colleges who might wish to pursue a two-year curriculum at Stanford leading to a Master's degree in one of the engineering disciplines $10,000

Thiel College, Greenville, Pa.: to provide a spectrophotometer for the College's new science building . . . . . $ 4,307

Thompson Academy, Thompson's Island, Boston, Mass.: for the development program of the Academy $10,000

United Negro College Fund, Inc., The, New York 22, N. Y.: contributions toward annual operating funds secured by this organization for the United Negro Colleges $20,000

United States Merchant Marine Academy, The, Kings Point, N. Y.: contribution to the Academy's fund for construction of a Merchant Marine Memorial Chapel $10,000

USO Fund of New York, Inc., The, New York 4, N. Y.: donations for the support of the work of the Fund . . . . . $ 3,000

Vocational Foundation, Inc., New York 16, N. Y.: to assist the grantee in maintaining its job-placement program and other related social services . . . . . $ 2,500

Winchell Foundation, Inc., Walter, New York 19, N. Y.: contribution to the administrative expenses of the Foundation . . $ 5,000

Woods Hole Oceanographic Institution, Woods Hole, Mass.: contribution toward the research program of the Institution . . $ 5,000

Young Men's Christian Association of Greater New York, Harlem Branch, New York 30, N. Y.: a special contribution to finance the renovation of areas used by the Association in conducting its educational programs for adolescents and young adults $10,000

History and General Policies of the Foundation

THE ALFRED P. SLOAN FOUNDATION was established as a non-profit corporation under the laws of the State of Delaware on August 2, 1934. Hence the publication of this *Report* marks the 25th year of its corporate existence. Originally incorporated as the Sloan Foundation, its name was later changed to Alfred P. Sloan Foundation, Inc. A further amendment of its certificate of incorporation in 1958 established "Alfred P. Sloan Foundation" as the legal name.

The certificate of incorporation clearly imposes restrictions upon the activities of the Foundation. Operations are confined to those of a religious, charitable, scientific, literary, or educational nature; individuals having a personal interest in the affairs of the Foundation are forbidden to receive any benefit from its operations; and no activities designed to influence legislation are permitted.

Within this restricted area considerable discretion is allowed in applying the Foundation's resources to charitable and related purposes. Grants, as well as other expenditures, may be made either from current income or from the capital funds of the Foundation. The Foundation may enter into contracts, employ staff personnel, establish offices and, in general, carry on all activities necessary or desirable properly to conduct its affairs.

On January 1, 1938 the Foundation's Trustees announced their intention to devote their organization's resources primarily to the field of American economic education and research. Adherence to this policy continued until 1945 when a grant of major proportions was made for research in cancer. As indicated earlier in this *Report*, certain other fields have been

Small conference room in the new Foundation headquarters. The Foundation moved its offices from 30 Rockefeller Plaza, New York 20, to 630 Fifth Avenue, on January 7, 1957.

added since 1952; and, in the future, the Foundation intends to commit some of its funds to the newer fields as well as to those in which it has previously been active. These newer fields include promotion of research in the physical sciences and in ophthalmology. They also include support of a fairly extensive undergraduate scholarship program in American colleges and universities. Other possible areas in which grants may be made in the future are currently under study.

To finance the major commitments in two of the areas identified above, namely, cancer and pure science, special funds have been established within the Foundation. The funds are respectively: the General Motors Dealers Appreciation Fund for Cancer and Medical Research and the Fund for Basic Research in the Physical Sciences. Grants in other areas will continue to be derived from appropriations made from the income and capital accounts of the Foundation's General Fund.

The Foundation acts as a grant-making agency. Occasionally it may finance certain surveys and special investigations for its own information; but it conducts no educational work on its own account; nor does it engage directly in research. Its grants are made to assist specific projects carried on by accredited educational and charitable institutions within the borders of the United States; or to support scholarships and fellowships in specific educational institutions.

Commitments for projects are normally made for a single year. They may, however, be made for a period of three years; and, in unusual cases, for an even longer period. At the end of each year, or at the end of the period for which the Foundation's commitment is to run, an accounting is made, either by the grantee or by the Foundation, and all unused funds are returned. Requests for renewal are considered far enough in advance of the expiration date of an existing commitment to assure uninterrupted progress of activities if a renewal should be voted; or to permit of orderly liquidation if the Foundation's Trustees should decide not to renew.

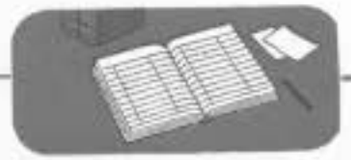
As suggested earlier, the Foundation believes that one of its functions is that of assuming the risks of new enterprises which, because of their experimental character, would prove to be an unwarranted burden upon the regular administrative budgets of the sponsoring institutions. Hence, at the

outset, the initial expenses of an acceptable project are absorbed and the necessary equipment is furnished. Although the Foundation makes no promise, implied or otherwise, to assume a financial obligation for a longer period of time than is specified in its original commitment, the Trustees occasionally do vote to renew existing projects. This is done only after a careful reexamination of the project by appropriate Foundation staff members and consultants and after a recommendation to the Trustees that continuation of support for an additional period is clearly desirable. A consideration which may influence the Trustees to extend a commitment is their desire to assure a project a fair opportunity to achieve the objectives originally set for it.

PROCEDURE IN APPLYING FOR A GRANT-IN-AID

The Foundation welcomes constructive criticism and suggestions. Qualified institutions in sympathy with the ideas set forth herein should feel free to submit to the Foundation projects which fall within the scope of the Foundation's fields of activity and fit in with its program. Conscientious attention and careful thought are given to all such communications.

In the case of educational research projects the procedure for applying for assistance is informal. The Foundation supplies no application forms. Specific projects which are to be submitted for consideration should first be definitely formulated in a brief memorandum and the memorandum should be sent to the Foundation. In the memorandum the objectives of the project should be clearly stated, the proposed procedures outlined, and an estimate given of the probable expense involved. Routine is greatly facilitated by settling as much as possible by correspondence. Conferences and field investigations demanding, as they do, a considerable amount of time and expense, properly come last in the course of negotiations, and, in any case, will not be undertaken unless it has first been established that the proposed project falls within an area in which the Foundation has made grants in the past and that the Foundation has indicated a serious interest in the proposal.



Financial Review

IN THE TWO-YEAR PERIOD ended December 31, 1958 the assets of the Foundation were increased by gifts from Mr. Alfred P. Sloan, Jr., bequests made by Mrs. Sloan, and the termination of trusts established by her. The assets received from these sources, valued at the dates of the gifts, were as follows:

1957	$2,929,412
1958	3,465,180
	$6,394,592

The above amount brings the total contributed to the Foundation by Mr. and Mrs. Sloan to a total in excess of $109,000,000.

The financial status of the Foundation at December 31, 1958 and 1956 is given in a comparative balance sheet on page 147 of this *Report*. The investments shown by the balance sheet are priced at market quotation values at the respective dates. After provision for all commitments, the remaining assets of the Foundation are distributed among the three Reserve Funds as follows:

	DECEMBER 31	
	1958	1956
General Fund	$152,128,045	$130,639,927
General Motors Dealers Appreciation Fund	7,214,829	5,826,694
Fund for Basic Research in the Physical Sciences	6,035,417	5,314,579
	$165,378,291	$141,781,200

The origin of the General Motors Dealers Appreciation Fund was explained in the 1947-1948 Foundation *Report*. The origin of the Fund for Basic Research in the Physical Sciences was explained in the 1955-1956 *Report*.

The Income and Expenses of the Foundation for the two-year periods ended December 31, 1958 and 1956 are shown in detail on pages 148-149 in a statement called "Income Account." A summary of that statement showing the distribution of income and expenses among the various Reserves for the two-year period ended December 31, 1958 follows:

	GENERAL FUND	GENERAL MOTORS DEALERS APPRECIATION FUND	FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES
Investment income	$11,042,792	$487,406	$ 451,002
Other income	154,229		15,581
Total income	$11,197,021	$487,406	$ 466,583
Grant payments	$ 7,602,716	$370,520	$1,384,000
Other expenses	891,247		125,472
Total disbursements	$ 8,493,963	$370,520	$1,509,472
Income (deficit) for the period	$ 2,703,058	$116,886	($1,042,889)

During the two-year period ended December 31, 1958, commitments made by the Foundation amounted to $13,718,954. Grants authorized but not due for payment at December 31, 1958 were $10,174,819. The details of grants for the period under review are shown on pages 160 to 169 of this *Report*.

A third statement called "Summary of Fund Reserves Adjusted to Market Quotation Values" is shown on pages 150-151 of this *Report*. This statement is in comparative form for the two year periods ended December 31, 1958 and December 31, 1956. Changes in the three Reserve Accounts during the two-year period ended December 31, 1958 may be summarized as follows:

	GENERAL FUND	GENERAL MOTORS DEALERS APPRECIATION FUND	FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES
Balance at beginning	$136,317,027	$6,051,694	$5,314,579
Gifts and bequests	5,144,592		1,250,000
Realized appreciation of security values	3,030,013	290,405	67,248
Increase in unrealized appreciation of security values	14,661,149	755,844	893,504
Net income or (deficit)	2,703,058	116,886	(1,042,889)
Total	$161,855,839	$7,214,829	$6,482,442
Commitments	9,727,794		447,025
Unallotted Reserve	$152,128,045	$7,214,829	$6,035,417

HASKINS & SELLS
CERTIFIED PUBLIC ACCOUNTANTS

67 BROAD STREET
NEW YORK 4

March 11, 1959

ACCOUNTANTS' OPINION

ALFRED P. SLOAN FOUNDATION:

We have examined the balance sheet of Alfred P. Sloan Foundation as of December 31, 1958 and 1956 and the related income account and summary of fund reserves adjusted to market quotation values for the two-year periods then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In accordance with the policy of the Foundation, no effect has been given in the accompanying statements to income accrued but not due at December 31, 1958 and 1956.

In our opinion, with the explanation in the preceding paragraph, the accompanying balance sheet, income account and summary of fund reserves adjusted to market quotation values present fairly the financial position of the Foundation at December 31, 1958 and 1956 and the results of its operations for the two-year periods then ended, in conformity with generally accepted accounting principles consistently applied.

HASKINS & SELLS

BALANCE SHEET
(INVESTMENTS AT MARKET QUOTATION VALUES)
DECEMBER 31, 1958 AND 1956

	1958	1956
ASSETS		
Cash	$ 2,550,906	$ 1,894,080
Investments:		
Fixed income securities	40,036,930	57,993,440
Marketable stocks	126,332,262	87,337,209
New Castle Corporation common stock, proportionate ownership of cash and underlying securities at market quotation value	6,483,012	458,571
Notes receivable	150,000	
TOTAL	$175,553,110	$147,683,300
FUND RESERVES		
General Fund:		
Grants authorized but not due	$ 9,727,794	$ 5,677,100
Net assets	152,128,045	130,639,927
TOTAL	$161,855,839	$136,317,027
General Motors Dealers Appreciation Fund:		
Grants authorized but not due		$ 225,000
Net assets	$ 7,214,829	5,826,694
TOTAL	$ 7,214,829	$ 6,051,694
Fund for Basic Research In the Physical Sciences:		
Grants authorized but not due	$ 447,025	
Net assets	6,035,417	$ 5,314,579
TOTAL	$ 6,482,442	$ 5,314,579
TOTAL	$175,553,110	$147,683,300

NOTE 1: At December 31, 1958 the Foundation was committed for gifts for indefinite periods as follows:

To Sloan-Kettering Institute for Cancer Research, $400,000 per annum, cancelable on five years' notice. This obligation is included above in the amount of $2,000,000.

To Massachusetts Institute of Technology, Sloan Fellowship Project, $312,500 per annum cancelable on three years' notice. This obligation is included above in the amount of $937,500.

To Dartmouth College, $55,000 per annum cancelable on three years' notice. This obligation is included above in the amount of $105,000.

NOTE 2: Personal property acquired from the estate of Mrs. Sloan and having an appraised value for estate tax purposes of $518,945 is not included in the above balance sheet. When this property is disposed of by the Foundation the proceeds will be credited to the General Fund Reserve.

INCOME ACCOUNT

FOR THE TWO YEAR PERIODS ENDED DECEMBER 31, 1958 AND 1956

	GENERAL FUND		GENERAL MOTORS DEALERS APPRECIATION FUND		FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES	
	1957-58	1955-56	1957-58	1955-56	1957-58	1955-56
Income:						
Investment income	$11,042,792	$6,380,266	$487,406	$452,503	$ 451,002	$230,123
Refunds of unexpended grants	46,054	48,269			15,581	
Other income	108,175	467,482		4,478		
Total	$11,197,021	$6,896,017	$487,406	$456,981	$ 466,583	$230,123
Expenditures:						
Grants paid	$ 7,602,716	$5,164,911	$370,520	$517,500	$1,384,000	$630,168
Administrative expenses	796,563	553,550			125,472	135,130
Maintenance of owned properties	94,684					
Total	$ 8,493,963	$5,718,461	$370,520	$517,500	$1,509,472	$765,298
Net income (deficit) for period	$ 2,703,058	$1,177,556	$116,886	($ 60,519)	($1,042,889)	($535,175)

SUMMARY OF FUND RESERVES

ADJUSTED TO MARKET QUOTATION VALUES
FOR THE TWO YEAR PERIODS ENDED DECEMBER 31, 1958 AND 1956

	GENERAL FUND		GENERAL MOTORS DEALERS APPRECIATION FUND		FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES	
	1957-58	1955-56	1957-58	1955-56	1957-58	1955-56
Principal:						
Balance at beginning of period—book value	$111,514,573	$ 35,998,734	$3,167,286	$2,464,996	$5,508,212	
Gifts and bequests	5,144,592	70,516,101			1,250,000	$5,464,923
Profit (loss) on security disposals	3,030,013	3,617,891	290,405	567,494	67,248	(458)
Excess of market value of securities received in partial liquidation of New Castle Corporation over ledger value of New Castle stock surrendered		1,356,395		125,400		43,747
Excess of market over book value of securities used in grant payment		174,108		8,055		
Market value of securities received in exchange in excess of (below) ledger value of securities surrendered		(88,656)		1,341		
Contributions originally credited to income	2,106,386		43,602			
Balance at end of period—book value	$121,795,564	$111,514,573	$3,501,293	$3,167,286	$6,825,460	$5,508,212
Unrealized appreciation of proportionate share of investments	41,574,623	26,913,474	3,242,375	2,486,531	1,235,046	341,542
Balance at end of period—market value	$163,370,187	$138,428,047	$6,743,668	$5,653,817	$8,060,506	$5,849,754
Income:						
Balance (deficit) at beginning of period	($ 2,111,020)	($ 3,288,576)	$ 397,877	$ 458,396	($ 535,175)	
Net income (deficit) for period	2,703,058	1,177,556	116,886	(60,519)	(1,042,889)	($ 535,175)
Transfer to principal of gifts originally credited to income	(2,106,386)		(43,602)			
Balance (deficit) at end of period	($ 1,514,348)	($ 2,111,020)	$ 471,161	$ 397,877	($1,578,064)	($ 535,175)
Combined balances	$161,855,839	$136,317,027	$7,214,829	$6,051,694	$6,482,442	$5,314,579
Authorized grants—not due	9,727,794	5,677,100		225,000	447,025	
UNALLOTTED FUND RESERVE—END OF PERIOD	$152,128,045	$130,639,927	$7,214,829	$5,826,694	$6,035,417	$5,314,579

INVESTMENTS
DECEMBER 31, 1958

	PRINCIPAL AMOUNT	MARKET QUOTATION VALUE
Fixed Income Securities:		
Maturity Beyond 5 Years:		
Southwestern Bell Telephone Company Debentures 4¾%—Due 10/1/92	$ 5,000	$ 5,200
Potomac Electric Power Company, First Mortgage Bonds		
3⅝%—Due 6/1/91	300,000	255,000
Debentures 4⅛%—Due 2/15/82	350,000	354,375
American Telephone & Telegraph Company Debentures		
3⅞%—Due 7/1/90	1,000,000	920,000
4⅜%—Due 4/1/85	5,000,000	5,000,000
United States Treasury Bonds 3½%—Due 2/15/90	100,000	92,500
Illinois Bell Telephone Company, First Mortgage Series "E" Bonds 4¼%—Due 3/1/88	300,000	291,000
Mountain States Telephone & Telegraph Co. Debentures 4⅜%—Due 2/1/88	250,000	251,250
Appalachian Electric Power Company, First Mortgage Bonds 4⅝%—Due 3/1/87	250,000	242,500
Public Service Company of Oklahoma, First Mortgage Series "F" Bonds 4¼%—Due 2/1/87	250,000	241,250
Illinois Power Company, First Mortgage Bonds 3¾%—Due 7/1/86	500,000	445,000
Union Electric Company, First Mortgage Bonds 3¾%—Due 7/1/86	500,000	445,000
Florida Power Corporation, First Mortgage Bonds 3⅞%—Due 7/1/86	300,000	267,000
Commonwealth Edison Company, First Mortgage Bonds		
"S" Bonds 4¼%—Due 3/1/87	250,000	247,500
"R" Bonds 3½%—Due 6/1/86	300,000	258,000
Duke Power Company First and Refunding Bonds 3⅜%—Due 5/1/86	500,000	440,000
Wisconsin Electric Power Company, First Mortgage Bonds 3⅞%—Due 4/15/86	500,000	457,500
Thompson Products, Incorporated Convertible Debentures 4⅞%—Due 8/1/82	50,000	62,000

INVESTMENTS
DECEMBER 31, 1958
—CONTINUED—

	PRINCIPAL AMOUNT	MARKET QUOTATION VALUE
Fixed Income Securities *(continued)*:		
Maturity Beyond 5 Years *(continued)*:		
Champion Paper & Fibre Company Debentures 3¾%—Due 7/15/81	$ 245,000	$ 230,300
Southern California Edison Company, First & Refunding "G" Bonds 3⅜%—Due 4/15/81	500,000	450,000
Northern Illinois Gas Company, First Mortgage Bonds 3¾%—Due 4/1/81	300,000	273,000
Columbia Gas System, Incorporated Debentures "F" 3⅞%—Due 4/1/81	500,000	457,500
Aluminum Company of Canada, Ltd. Debentures		
4½%—Due 4/1/80	370,000	375,087
3⅞%—Due 5/1/70	10,000	9,700
Public Service Electric & Gas Company Debentures 4⅝%—Due 3/1/77	250,000	259,688
General Electric Company Debentures 3½%—Due 5/1/76	500,000	471,250
United States Treasury Bonds 2½%—Due 12/15/67-72	200,000	171,250
United States Treasury Bonds 2½%—Due 6/15/69-64	325,000	283,562
Total		$ 13,256,412
Maturity 2 to 5 Years:		
Federal Land Banks Consolidated Farm Loan Bonds 2¾%—Due 5/1/63	$ 2,000,000	$ 1,905,000
Federal Home Loan Bank Consolidated Notes 3⅛%—Due 4/15/63	2,300,000	2,254,000
Federal National Mortgage Association Debentures 3¼%—Due 3/11/63	6,000,000	5,827,500
United States Treasury Notes 2⅝%—Due 2/15/63	1,000,000	954,375
General Motors Acceptance Corporation Debentures 3⅞%—Due 9/15/61	2,010,000	2,012,513
Total		$ 12,953,388

INVESTMENTS
DECEMBER 31, 1958
—CONTINUED—

	PRINCIPAL AMOUNT OR NUMBER OF SHARES	MARKET QUOTATION VALUE
Fixed Income Securities *(continued)*:		
Maturity Under 2 Years:		
General Motors Acceptance Corporation Debentures 3%—Due 4/1/60	$ 1,500,000	$ 1,486,875
United States Treasury Certificates of Indebtedness 3⅝%—Due 11/15/59	750,000	751,875
Sears Roebuck Acceptance Corporation Promissory Note 3⅜%—Due 8/3/59	1,000,000	972,510
United States Treasury Certificates of Indebtedness 1⅝%—Due 8/1/59	150,000	149,062
General Motors Acceptance Corporation Promissory Note—Due 7/1/59	1,000,000	976,667
General Motors Acceptance Corporation Promissory Note—Due 2/24/59	500,000	494,516
General Motors Acceptance Corporation Promissory Note—Due 1/16/59	1,000,000	1,000,000
Pacific Finance Corporation Promissory Note—Due 1/16/59	1,000,000	1,000,000
Federal Home Loan Bank Consolidated Notes 1¼%—Due 1/15/59	3,500,000	3,495,625
General Motors Acceptance Corporation Promissory Note—Due 1/5/59	2,000,000	2,000,000
Pacific Finance Corporation Promissory Note—Due 1/5/59	1,500,000	1,500,000
Total		$ 13,827,130
Total Fixed Income Securities		$ 40,036,930
Stocks—Common or Capital:		
Air Reduction Company, Inc.	shs. 9,100	$ 740,512
Allied Chemical Corporation	5,974	559,316
Aluminium Limited	24,747	816,651
Aluminum Company of America	5,000	466,875
Amerada Petroleum Corporation	3,000	309,375
American Airlines, Incorporated	10,000	242,500
American Cyanamid Company	11,358	586,357

INVESTMENTS
DECEMBER 31, 1958
—CONTINUED—

	NUMBER OF SHARES	MARKET QUOTATION VALUE
Stocks—Common or Capital *(continued)*:		
American Electric Power Company, Inc.	4,704	$ 254,604
American Telephone & Telegraph Company	33,000	7,425,000
American Trust Company (San Francisco)	3,400	180,200
American Viscose Corporation	20,000	750,000
Armco Steel Corporation	7,100	470,375
Bankers Trust Company	2,000	150,500
Bethlehem Steel Corporation	16,400	858,950
Caterpillar Tractor Company	7,000	623,000
Central & South West Corporation	6,000	352,500
Chase Manhattan Bank, The	4,400	255,200
Clark Equipment Company	8,000	472,000
Commonwealth Edison Company	2,175	123,703
Consumers Power Company	3,360	187,740
Continental Can Company, Inc.	25,000	1,446,875
Continental Illinois National Bank & Trust Co. of Chicago	5,500	627,000
Continental Oil Company	11,500	725,937
Corning Glass Works	6,600	673,200
Crown Zellerbach Corporation	10,000	578,750
Cutler-Hammer, Incorporated	9,900	603,900
Dayton Power & Light Company	4,500	254,250
Dow Chemical Company	23,760	1,817,640
DuPont (E.I.) de Nemours & Company	2,690	574,988
Eastern Air Lines, Incorporated	5,848	203,218
Eastman Kodak Company	7,500	1,081,875
First National Bank of Boston	5,000	411,250
First National Bank of Chicago	750	257,250
First National City Bank of New York	6,000	446,250
Food Machinery & Chemical Corporation	8,000	354,000
General Electric Company	25,600	2,006,400
General Foods Corporation	5,258	395,664
General Mills, Incorporated	11,500	1,029,250
General Motors Corporation	871,490	43,138,755
General Portland Cement Company	9,000	720,000

INVESTMENTS
DECEMBER 31, 1958
—CONTINUED—

	NUMBER OF SHARES	MARKET QUOTATION VALUE
Stocks—Common or Capital *(continued)*:		
Goodrich (B. F.) Company	10,600	$ 858,600
Great Northern Paper Company	6,600	346,500
Guaranty Trust Company of New York	2,400	220,200
Gulf Oil Corporation	7,661	965,372
Halliburton Oil Well Cementing Company	6,000	370,500
Harris Trust & Savings Bank (Chicago)	5,000	585,000
Hercules Powder Company	19,600	1,107,400
Household Finance Corporation	21,150	793,125
Ingersoll-Rand Company	16,000	1,556,000
International Business Machines Corporation	9,532	5,099,620
International Nickel Company of Canada, Ltd.	6,500	573,625
International Paper Company	4,080	479,910
Kennecott Copper Corporation	23,000	2,265,500
Lehigh Portland Cement Company	20,000	730,000
Lily-Tulip Cup Corporation	4,000	384,000
Lone Star Gas Company	4,000	168,000
Mellon National Bank & Trust Co.	1,150	177,100
Merck & Company, Inc.	20,600	1,586,200
Monsanto Chemical Company	22,000	866,250
Morgan (J. P.) & Co. Incorporated	3,067	1,156,259
National Bank of Detroit	220	14,520
National Cash Register Company	15,735	1,243,065
National Lead Company	7,000	782,250
National Steel Corporation	11,000	833,250
New Castle Corporation	335	6,483,012
New York State Electric & Gas Corporation	6,000	339,750
Niagara Mohawk Power Corporation	6,000	231,750
Northwest Bancorporation	5,000	465,000
Oklahoma Gas & Electric Company	10,000	298,750
Otis Elevator Company	6,600	481,800
Outboard Marine Corporation	9,300	317,362
Owens-Illinois Glass Company	16,100	1,412,775

INVESTMENTS
DECEMBER 31, 1958
—CONTINUED—

	NUMBER OF SHARES	MARKET QUOTATION VALUE
Stocks—Common or Capital *(continued)*:		
Pacific Gas & Electric Company	7,400	$ 469,900
Panhandle Eastern Pipe Line Company	18,000	1,057,500
Parke, Davis & Company	27,000	1,049,625
Pfizer (Chas.) & Company, Inc.	3,000	310,875
Phelps Dodge Corporation	4,000	241,500
Philips Gloeilampenfabrieken (1,000 florins)	870	1,131,000
Procter & Gamble Company, The	20,000	1,485,000
Public Service Electric & Gas Company	5,000	192,500
Puget Sound Power & Light Company	11,500	391,000
Republic Natural Gas Company	8,000	254,000
Republic Steel Corporation	7,000	525,000
Reynolds Metals Company	6,100	469,700
Royal Dutch Petroleum Company	18,000	861,750
Sears, Roebuck & Company	30,000	1,192,500
Security-First National Bank (Los Angeles)	3,100	177,475
Shell Oil Company	9,414	802,544
Smith, Kline & French Laboratories	5,500	572,000
Socony Mobil Oil Company, Inc.	12,700	614,362
Southern California Edison Company	7,000	411,250
Southern Company, The	16,200	605,475
Spencer Chemical Company	7,000	416,500
Square D Company	26,500	791,688
Standard Oil Co. of California	6,300	376,425
Standard Oil Company (New Jersey)	59,897	3,451,565
Texas Company, The	16,331	1,400,383
Thompson-Ramo Wooldridge, Inc.	7,000	474,250
Union Bag-Camp Paper Corporation	12,816	559,098
Union Carbide Corporation	8,576	1,081,648
United Carbon Company	2,182	159,328
United States Gypsum Company	14,000	1,372,000
United States Steel Corporation	22,600	2,175,250
Virginia Electric & Power Company	10,900	415,563

INVESTMENTS
DECEMBER 31, 1958
—CONTINUED—

	NUMBER OF SHARES	MARKET QUOTATION VALUE
Stocks—Common or Capital *(continued)*:		
Washington Water Power Company, The	5,000	$ 222,500
West Penn Electric Company, The	8,500	300,687
West Virginia Pulp & Paper Company	3,100	156,550
Westinghouse Electric Corporation	3,865	282,628
Total Stocks		$132,815,274

SUMMARY

Total Fixed Income Securities	$ 40,036,930
Total Stocks	132,815,274
TOTAL INVESTMENTS	$172,852,204

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1958

	PAID AT DECEMBER 31, 1956	AUTHORIZED 1957-1958	PAYMENTS 1957-1958	DUE AFTER DECEMBER 31, 1958
Agricultural and Mechanical College of Texas		$ 10,000	$ 10,000	
Akron, The University of		6,000	6,000	
Albion College	24,480	24,740	20,020	$ 29,200
American Assembly, The		10,000	10,000	
American Association for the Advancement of Science		7,857	7,857	
American Bar Foundation		10,000	10,000	
American Chemical Society		100,000	100,000	
American Council for Emigrés in the Professions, Inc.		8,646	8,646	
American Council on Education		5,000	5,000	
American Craftsmen's Council		7,500	7,500	
American Heritage Foundation, The		10,000	10,000	
American National Red Cross, The		20,000	20,000	
Amherst College	44,550	66,025	41,350	69,225
Antioch College		14,400	1,800	12,600
Arizona, University of		10,000	10,000	
Association of American Colleges	15,000	35,000	50,000	
Association of the Bar of the City of New York Fund, Inc.	21,500	21,500	21,500	
Automotive Safety Foundation		33,000	33,000	
Baylor University		26,580	26,580	
Berea College		5,000	5,000	
Bowdoin College		29,100	3,200	25,900
Boys' Clubs of America		50,000	50,000	
Boy Scouts of America, Greater New York Councils		20,000	20,000	
Brigham Hospital, Peter Bent	20,000		40,000	20,000
British Columbia, University of		5,373	5,373	
Brown University		63,041	34,341	28,700
California Institute of Technology	74,000	1,437,650	298,775	1,212,875
California, University of		240,471	191,371	49,100
Cambridge School of Weston, The		10,000	10,000	
Carleton College		13,200	1,650	11,550
Carnegie Institute of Technology	85,000	145,950	121,575	129,375
Case Institute of Technology	33,200	73,800	41,000	86,000
Chicago, University of		64,900	34,200	30,700
Clark University		10,000	10,000	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1958
—CONTINUED—

	PAID AT DECEMBER 31, 1956	AUTHORIZED 1957-1958	PAYMENTS 1957-1958	DUE AFTER DECEMBER 31, 1958
Cleveland Engineering Society, The		$ 5,000	$ 5,000	
Colby College		2,100	2,100	
Colgate University		38,800	13,600	$ 25,200
Colorado, University of		18,860	9,430	9,430
Columbia University		191,750	178,000	13,750
Conservation Foundation, The		15,000	15,000	
Cooper Union for the Advancement of Science and Art		150,000	150,000	
Cornell University	98,500	417,545	491,761	519,284
Council for Financial Aid to Education, Inc.	50,000	400,000	150,000	300,000
Council on Foreign Relations, Inc.		10,000	10,000	
Crotched Mountain Foundation		20,000	20,000	
Dartmouth College	27,820	302,260	211,680	318,400
Duke University		21,900	14,400	7,500
Edison Foundation, Inc., Thomas Alva		5,000	5,000	
Educational Testing Service		50,000	50,000	
Fairleigh Dickinson University		10,000	10,000	
Farmers Federation Educational and Development Fund, Inc.		5,000	5,000	
Florida State University		12,650	6,325	6,325
Foreign Policy Association		5,000	5,000	
Foundation for Economic Education, Inc., The		20,000	20,000	
Freedoms Foundation at Valley Forge		15,000	15,000	
George Washington University		10,000	10,000	
Georgia Institute of Technology		55,850	32,950	22,900
Georgia, University of		16,100	7,475	8,625
Harvard University		159,613	100,863	58,750
Hawaiian Academy of Science		5,000	5,000	
Herald Tribune Fresh Air Fund		5,000	5,000	
High Altitude Observatory of the University of Colorado		5,000	5,000	
Hofstra College		10,000	10,000	
Illinois, University of	50,000	142,052	173,552	18,500
Indiana University Foundation		14,800	14,800	
Institute of International Education		10,000	10,000	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1958
—CONTINUED—

	PAID AT DECEMBER 31, 1956	AUTHORIZED 1957-1958	PAYMENTS 1957-1958	DUE AFTER DECEMBER 31, 1958
International House		$ 4,000	$ 4,000	
Iran Foundation, Inc., The		10,000	10,000	
Johns Hopkins University, The	60,950	150,050	95,250	$ 115,750
Joint Council on Economic Education		20,000	20,000	
Knox College		32,800	21,600	11,200
Legal Aid Society		10,000	10,000	
Lehigh University		30,400	3,800	26,600
Lincoln Center for the Performing Arts, Inc.		500,000	100,000	400,000
Louisiana Polytechnic Institute		11,500	5,750	5,750
Manhattan Eye, Ear and Throat Hospital		22,000	22,000	
Massachusetts Eye and Ear Infirmary		10,462	10,462	
Massachusetts Institute of Technology	17,000	2,887,276	2,899,526	1,804,750
McGill University		1,000	1,000	
Memorial Center for Cancer and Allied Diseases		2,000,000		2,000,000
Menninger Foundation, The	00,000		100,000	
Merchant Marine Memorial Chapel		10,000	10,000	
Michigan, University of		122,665	104,240	18,425
Minnesota, University of		72,460	49,590	22,870
Missouri, University of		11,450	11,450	
Museum of Science		10,000	10,000	
National Academy of Sciences		21,480	21,480	
National Bureau of Economic Research, Inc.		10,000	10,000	
National Citizens Council for Better Schools, Inc., The		20,000	20,000	
National Civil Service League		27,500	27,500	
National Conference of Christians and Jews, Inc.		10,000	10,000	
National Foundation for Junior Museums, Inc.		5,000	5,000	
National Information Bureau, Inc.		1,500	1,500	
National Legal Aid Association		10,000	10,000	
National Multiple Selerosis Society		5,000	5,000	
National Municipal League		5,000	5,000	
New York University	90,000	310,149	299,399	50,750
New York University Bellevue Medical Center	50,000		50,000	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1958
—CONTINUED—

	PAID AT DECEMBER 31, 1956	AUTHORIZED 1957-1958	PAYMENTS 1957-1958	DUE AFTER DECEMBER 31, 1958
North Carolina, University of		$ 23,000	$ 11,500	$ 11,500
Northwestern University		42,000	27,000	15,000
Notre Dame, University of		27,200	3,400	23,800
Oberlin College	43,200	70,950	45,900	68,250
Occidental College		14,400	1,800	12,600
Ohio State University, The		36,700	22,550	14,150
Ophthalmological Foundation, Inc., The	5,000	32,000	32,000	
Oregon State College		46,130	30,030	16,100
Oregon, University of		18,850	13,675	5,175
Parsons School of Design		5,000	5,000	
Pennsylvania State University, The		6,480	6,480	
Polytechnic Institute of Brooklyn		24,050	15,925	8,125
Population Council, Inc., The		10,000	10,000	
Princeton University		101,486	64,486	37,000
Princeton University Press		10,000	10,000	
Purdue Research Foundation		9,481	9,481	
Purdue University		23,400	9,750	13,650
Queen's University		10,063	10,063	
Recording for the Blind, Inc.		5,000	5,000	
Rochester, University of		84,580	57,080	27,500
Rutgers University		14,000	14,000	
Scientific Manpower Commission		2,000	2,000	
Sloan-Kettering Institute for Cancer Research	000,000	949,520	949,520	2,000,000
Smith College		3,643	3,643	
South Carolina, University of		11,500	11,500	
Southern California, University of		14,400	14,400	
Southern Research Institute	225,000		225,000	
Stanford University	296,950	424,650	296,515	235,085
Syracuse University		85,000	42,500	42,500
Teleprograms Inc.	42,500			
Thiel College		4,307	4,307	
Thompson Academy		10,000	10,000	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1958
—CONTINUED—

	PAID AT DECEMBER 31, 1956	AUTHORIZED 1957-1958	PAYMENTS 1957-1958	DUE AFTER DECEMBER 31, 1958
Toronto, University of		$ 8,800	$ 8,800	
Tulane University		11,875	9,375	$ 2,500
United Engineering Trustees, Inc.		100,000	100,000	
United Negro College Fund, Inc.		20,000	20,000	
USO Fund of New York		3,000	3,000	
Vanderbilt University		24,800	3,100	21,700
Virginia, University of		21,375	21,375	
Vocational Foundation, Inc.		2,500	2,500	
Wabash College	5,200	26,600	20,800	31,000
Washington University		75,669	75,669	
Washington, University of		20,410	12,360	8,050
Wayne State University		6,900	6,900	
Whitman College		11,200	1,400	9,800
Williams College	7,250	73,600	44,800	76,050
Winchell Foundation, Inc., Walter		5,000	5,000	
Wisconsin, University of		50,480	38,305	12,175
Woods Hole Oceanographic Institution		5,000	5,000	
Worcester Foundation for Experimental Biology, The		10,000	10,000	
Yale University		26,250	13,125	13,125
Young Men's Christian Association of Greater New York		10,000	10,000	
Total	12,100			
Less — Cancellations				
Association of the Bar of the City of New York Fund, Inc.	1,500			
Ophthalmological Foundation, Inc., The	5,000			
Teleprograms Inc.	2,500			
	9,000			
Totals	3,100	$13,718,954	$9,357,235	$10,174,819

ALFRED P. SLOAN, JR.
Founder and President

ALFRED P. SLOAN FOUNDATION

630 FIFTH AVENUE, NEW YORK 20, N. Y.

Report for 1959-1960

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MEMBERS OF THE BOARD OF TRUSTEES

ALFRED P. SLOAN, JR.
Honorary Chairman of the Board, General Motors Corporation

FRANK W. ABRAMS
Former Chairman of the Board, Standard Oil Company of New Jersey

HENRY C. ALEXANDER[1]
Chairman of the Board, Morgan Guaranty Trust Company of New York

ALBERT BRADLEY
Director and former Chairman of the Board, General Motors Corporation

WALTER S. CARPENTER, JR.
Chairman of the Board, E. I. du Pont de Nemours & Company

LUCIUS D. CLAY
Chairman of the Board, Continental Can Company

JOHN L. COLLYER
Chairman of the Executive Committee, The B. F. Goodrich Company

LEWIS W. DOUGLAS
Chairman of the Executive Committee and former Chairman of the Board, Mutual Life Insurance Company of New York; Chairman of the Board, Southern Arizona Bank & Trust Company

FRANK A. HOWARD
Industrial Research Consultant; former President, Standard Oil Development Company

DEVEREUX C. JOSEPHS
Director and former Chairman of the Board, New York Life Insurance Company

MERVIN J. KELLY
Consultant to Presidents, International Business Machines Corporation and Bausch & Lomb Optical Company

[1]Elected January 7, 1960

MEMBERS OF THE BOARD OF TRUSTEES
—CONTINUED—

JAMES R. KILLIAN, JR.
Chairman of the Corporation, Massachusetts Institute of Technology

LAURANCE S. ROCKEFELLER
Chairman of the Board, Rockefeller Brothers, Inc.; Chairman of the Board, Memorial Sloan-Kettering Cancer Center

RAYMOND P. SLOAN
Vice President, Alfred P. Sloan Foundation

WARREN WEAVER
Vice President, Alfred P. Sloan Foundation

GEORGE WHITNEY
Chairman of the Directors Advisory Council, Morgan Guaranty Trust Company of New York

ARNOLD J. ZURCHER
Vice President and Executive Director, Alfred P. Sloan Foundation

COMMITTEES OF THE BOARD OF TRUSTEES

EXECUTIVE COMMITTEE

Alfred P. Sloan, Jr., *Chairman*
Albert Bradley
Frank A. Howard
Devereux C. Josephs
Raymond P. Sloan
Warren Weaver
Arnold J. Zurcher

INVESTMENT COMMITTEE

Albert Bradley, *Chairman*
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Devereux C. Josephs
James R. Killian, Jr.
Laurance S. Rockefeller
Alfred P. Sloan, Jr.

COMMITTEE ON EDUCATIONAL POLICY

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James R. Killian, Jr.
Alfred P. Sloan, Jr.
Arnold J. Zurcher

COMMITTEE ON SCIENTIFIC PROJECTS

Warren Weaver, *Chairman*
Frank A. Howard
Mervin J. Kelly
James R. Killian, Jr.

COMMITTEE ON CANCER RESEARCH

Frank A. Howard, *Chairman*
Albert Bradley
Laurance S. Rockefeller
Alfred P. Sloan, Jr.
Warren Weaver

OFFICERS AND STAFF OF THE FOUNDATION

Alfred P. Sloan, Jr. . . . . *President*
Albert Bradley . . . . . *Chairman of the Board*
Arnold J. Zurcher . . . . . *Vice President and Executive Director*
Raymond P. Sloan . . . . . *Vice President*
Warren Weaver . . . . . *Vice President*
James F. Kenney . . . . . *Secretary and Treasurer*
Claire Armstrong . . . . . *Assistant Treasurer*
Muriel P. Gaines . . . . . *Assistant Secretary*

* * *

Larkin H. Farinholt . . . . . *Administrator of the Basic Science Program*
Joseph Allen . . . . . *Administrator of the Alfred P. Sloan National Scholarship Program*
Catharine Stevens . . . . . *Director of Public Information*
Lindsay R. Moss . . . . . *Supervisor of Office Personnel and Services*

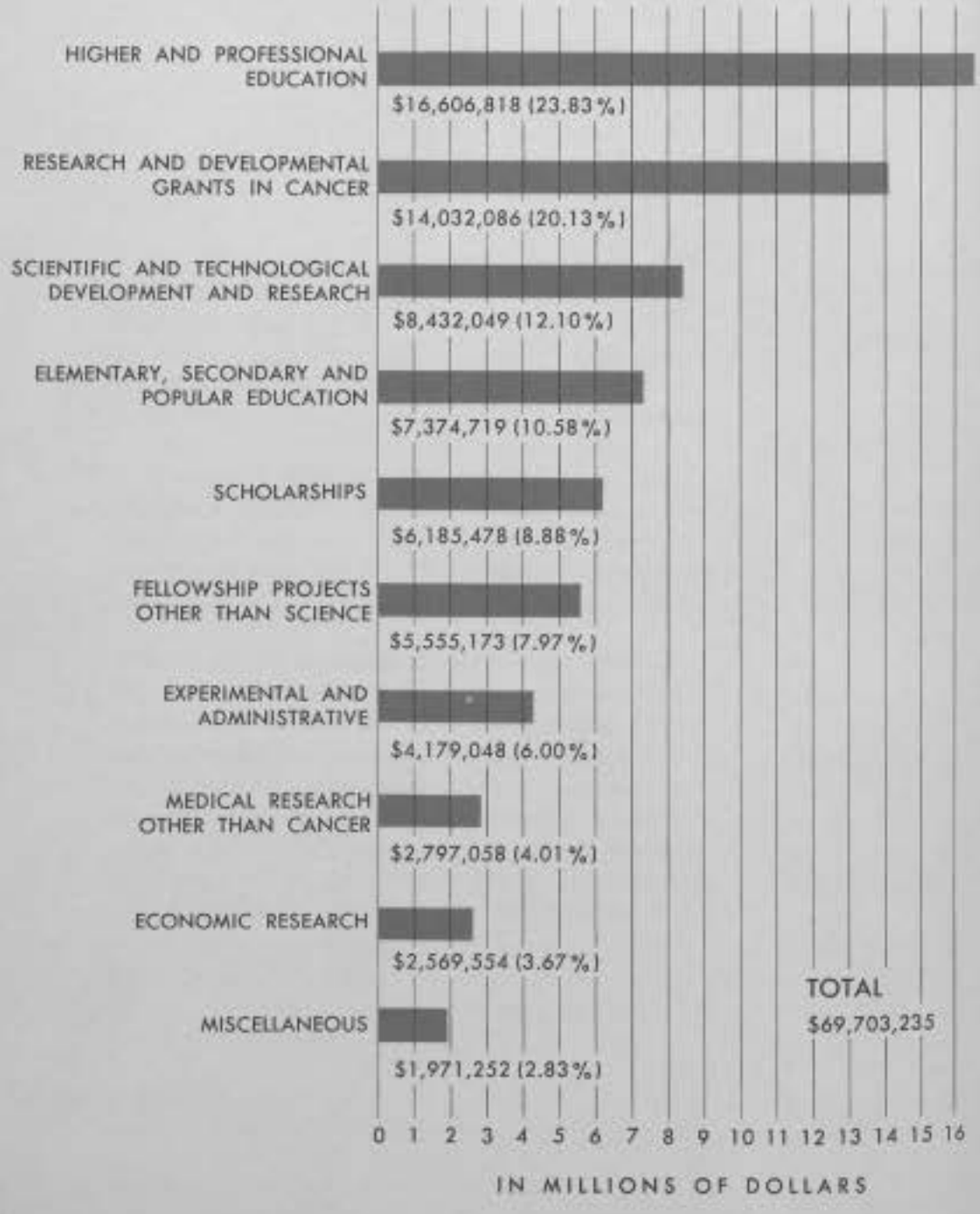
PREFACE

THE ALFRED P. SLOAN FOUNDATION administers a private fund for the benefit of the public. It accordingly recognizes the responsibility of making periodic reports to the public on the management of this fund. This *Report* has been prepared by direction of the Foundation's Trustees for the biennium 1959-60.

Activity of the Foundation is confined to providing financial support for approved projects administered by educational, scientific, and charitable institutions. The Foundation does not itself engage in educational or research activity or conduct projects of any sort.

In the following pages, recipients of the Foundation's grants are identified; so also are the sums involved and the nature of the various undertakings which the grants have financed. In addition, an attempt is made to explain the principles and policies which are observed by the Foundation's administrative staff and the Trustees in deciding which of the hundreds of worthy projects, annually brought to their attention, shall receive favorable consideration.

DISTRIBUTION OF THE FOUNDATION'S FUND 1935-1960



Review of Operations

A TWENTY-SIX YEAR SUMMARY

This *Report* of the Alfred P. Sloan Foundation covers the period from January 1, 1959 to December 31, 1960. It carries the published record through 26 years of the Foundation's active operations. On the opposite page there is an analysis of commitments totaling nearly $70 million which the Foundation has made in that span of time. By far the largest portion has been expended since the end of World War II. Even as late as 1946 all Foundation commitments had not exceeded $8 million. Hence, about $62 million has been committed in the 15-year period from 1946 to 1960 inclusive.

Until recently the largest single category of Foundation expenditure had been that for various projects directly or indirectly related to the support of cancer research. More than $14 million, or some 20 per cent of the total, has gone for this purpose. Medical research, other than cancer research, claimed only a relatively small percentage of the total outlay—some $2.8 million, or 4 per cent. These funds have been devoted chiefly to the support of a research program on glaucoma, a program which was begun in 1953.

Some recent rather extensive Foundation commitments in the educational field have raised that category of expenditure to first place among the purposes for which the Foundation has spent its revenue during the 26-year period. As will be noted in the chart, more than $16.6 million, or about a fourth of all commitments, was directed toward this field of activity. Additionally, some $7.37 million, or 10.6 per cent, was spent for projects designated as "Elementary, Secondary, or Popular Education." Therefore, if a con-

solidated figure were given for all educational projects, the claim of that category of grants to first position would be even more emphatic. The preference for educational projects becomes still more apparent if there is added to the previous total the $6.18 million given in support of the Alfred P. Sloan National Scholarship Program since its inception.

Throughout the history of the Foundation, it has shown a marked preference for placing its resources behind the training and development of individuals. In other words, although it has often financed large-scale enterprises that might be classified as "projects," it has traditionally supported persons. Such support has normally taken the form of scholarships and fellowships, all of which have been awarded through educational and research institutions. Thus the Foundation's baccalaureate scholarship program provides support each year for some 500 young men in some 35 institutions throughout the United States. Professional development activities of various kinds, currently supported by Foundation grants, provide financial assistance in some measure to an estimated 300 individuals. These activities fall into such areas as medical research, business management, hospital administration, science writing, and other specialties. By 1960 the Foundation's postdoctoral scientific research program was supporting some 120 scientists. Additionally, as will be indicated later, during the past two years the Foundation has financed two experimental programs to assist young people in college or professional school. One is a fellowship program for 35 graduate students in engineering; the other is an experiment to combine loan and scholarship assistance for undergraduates in certain institutions. The latter is currently providing support for 118 young men. Hence, through its various training and development programs, the Foundation is presently contributing to the support of more than a thousand young people who are seeking a degree or some form of professional advancement in the nation's colleges and universities. Today, therefore, the investment of philanthropic resources in the educational and professional development of young people of talent and serious purpose has as great an appeal for the Trustees as at any time in the Foundation's history.

OPERATIONS DURING 1959 AND 1960

Except for what might be considered normal expansion of support in various areas in which the Foundation is presently interested, there has been

no appreciable change in its general program during the biennium under review. New commitments totaled approximately $18.4 million. This is the largest volume of grants made in any two-year period of the Foundation's history and is almost $4.68 million more than was spent during the preceding biennium, 1957-58. The increase is explained in part by one large grant of $5 million made to the Massachusetts Institute of Technology for basic research in the physical sciences, expanded support of ophthalmological and otological research, and larger contributions for economic research.

Payments made on existing obligations amounted to $12.5 million. The Foundation's own administrative expenses and the cost of certain unclassified experimental projects brought actual disbursements during the biennium to $13.64 million. Income received during 1959-60 amounted to $15.13 million. As of December 31, 1960, unpaid obligations of the Foundation, that is, grants authorized for future payment, amounted to $16.15 million.

As will be noted in the financial section of the *Report*, an addition of $23,627,620 was made to the capital resources of the Foundation by Mr. Sloan in 1959. The actual value of the portfolio of the Foundation at market on December 31, 1960 was $198,522,979. About $39 million of this total consisted of fixed-income securities. The remainder, or about $159 million, consisted of equity stocks. Cash and other assets at December 31, 1960 amounted to $1,626,747.

The assets of the Foundation are distributed among three capital Funds. Besides the General Fund, which is the Foundation's basic capital Fund, there are also two special Funds, one known as the General Motors Dealers Appreciation Fund for Cancer and Medical Research and the other, the Fund for Basic Research in the Physical Sciences. The first of these special Funds grew out of a generous gift made by General Motors dealers throughout the United States in February 1949. The gift was made in honor of Mr. Sloan in appreciation of his services to the dealers at the time he served as Chief Executive Officer of the General Motors Corporation. The value of the Fund, when contributed, was approximately $1.5 million. It has shared in the appreciation of the general portfolio of the Foundation, and at the present time its value at market is approximately $7.736 million. Both the principal and the income of this Fund may be devoted to cancer and medical research. Much of the income has gone for the support of special research projects at the Sloan-Kettering Institute for Cancer Research and affiliated organizations.

The second of the special Funds, that for basic research, was established with donations of $6.7 million by Mr. and Mrs. Sloan. Income from this Fund supports in part the scientific fellowship program of the Foundation. It is anticipated that this special Fund will shortly be consolidated with the Foundation's General Fund.

TRUSTEES, OFFICERS, AND STAFF

The Foundation's Board of Trustees consists of 17 members. The newest member is Mr. Henry C. Alexander, Chairman of the Board and Chief Executive Officer of Morgan Guaranty Trust Company of New York. Mr. Alexander is a graduate of Vanderbilt University and the Yale Law School and has been active in civic and charitable enterprises in the New York area. He was elected a member of the Board on January 7, 1960.

Left: *Mr. Henry C. Alexander, elected Foundation Trustee, January 1960.* Photograph by Lester Kierstead Henderson. Right: *Dr. Larkin H. Farinholt, appointed Administrator of the Foundation's Program in Basic Science, August 1960.* Photograph by A. F. Sozio.

HENRY C. ALEXANDER

DR. LARKIN H. FARINHOLT

Most of the standing committees of the Foundation were reorganized on October 20, 1959. The Executive Committee presently consists of Mr. Alfred P. Sloan, Jr., Chairman, and Messrs. Albert Bradley, Frank A. Howard, Devereux C. Josephs, Raymond P. Sloan, Warren Weaver, and Arnold J. Zurcher. The Investment Committee consists of Mr. Albert Bradley, Chairman, and Messrs. Frank A. Howard, Devereux C. Josephs, James R. Killian, Jr., Laurance S. Rockefeller, and Alfred P. Sloan, Jr. Three special committees were also created or reconstituted, namely, the Committee on Educational Policy, the Committee on Scientific Projects, and the Committee on Cancer Research. The Chairmen of these three Committees are, respectively, Messrs. Albert Bradley, Warren Weaver, and Frank A. Howard.

On October 2, 1958, Mrs. Claire Armstrong became Assistant Treasurer of the Foundation; and on May 5, 1960, Mrs. Muriel P. Gaines became Assistant Secretary. A major staff change occurred in 1960 when Dr. Richard T. Arnold resigned as Administrator of the Foundation's Basic Science Program and was replaced by Dr. Larkin H. Farinholt. Dr. Arnold left to become Vice President in charge of Research at Mead Johnson and Company. Dr. Farinholt was formerly Professor of Chemistry and Director of Chemical Laboratories at Columbia University. More recently, while on leave from Columbia, he had served as Deputy Science Adviser to the Secretary of State. A new staff position, entitled Director of Public Information, was created during 1960, and Miss Catharine Stevens assumed the duties of that position. Also in 1960 Mr. Lindsay R. Moss was appointed to the newly created post of Supervisor of Office Personnel and Services.

IMPACT OF GOVERNMENT-AID PROGRAMS ON FOUNDATIONS

During the past five years, and more especially during the past two, the trustees of private foundations have been confronted with what appears to be a policy of expanding public assistance in areas where many foundations have traditionally been relatively active. Greatly augmented state scholarship programs, such as those in New York and California, and plans to assist college students with Federal scholarship and loan projects are cases in point. Also involved are the growing Federal programs to support scientific and medical education and research and to finance facilities for higher educational institutions by means of public loans and grants.

The reasons for the expansion of public assistance in these areas is fairly clear. First and foremost is America's rather sudden realization that she must make a prodigious effort to train more scientists and technologists, advance basic research, and generally increase the number of able people with professional skills. This she must do if she is to maintain her economic and technical strength as a nation and prevent a drift toward second-rate status in the international power competition. It has also become apparent that steps must be taken immediately to enlarge opportunities for higher education and education generally if the nation is to meet the demands imposed by its population growth and the constant upgrading of the technical requirements of contemporary society.

Although the reasons for increased support are therefore clear enough, the fact that this support is largely governmental poses some serious problems for private foundations and for those interested in maintaining a healthy system of voluntary financial aid for education and research. In the past this Foundation has made substantial investments in precisely those areas in which public support is now expanding so rapidly. Hence, the immediate, short-run problem for the Foundation is to determine what if any adjustment should be made in its existing programs to meet the situation produced by the expansion of public aid. If public support becomes generous enough in scope in certain areas, the Foundation's Trustees may find it desirable to divert their support to other areas where the need for assistance is comparatively greater. This problem of adjustment may become a relatively difficult one. In making the adjustment, however, it is unlikely that the Trustees will introduce any sudden changes in the type of projects they have been supporting, or even in the areas toward which, in the past, they have been directing the Foundation's income. On the other hand, it is not unlikely that there will be a modification of certain of the Foundation's programs in education and possibly at least a relative reduction in the support directed toward that particular area. The subject is under study. As this *Report* goes to press, no decisions have been reached.

This expanded Government-aid program also poses a long-run problem. That is the problem of the future place of private and voluntary support, including especially the place of private foundations such as the Sloan Foundation, in the comprehensive national system of support of education and similar activities. As a result of America's tax laws, its basic democratic

and liberal ideology, and the willingness of its people to allow wide scope for private philanthropy, America has been able to establish a kind of pluralistic structure of support for education, research, and eleemosynary activities generally. This structure of public and private support has been one of the great strengths of America's system of allocating available national resources for these fundamentally important activities. Because of that structure the United States has been able to enjoy the advantages of uniformity and centralized direction of what might be called "governmental philanthropy," on the one hand, and the values of voluntary support on the other. One of these latter values, which has characterized especially the work of the private foundations, has been their willingness to risk their resources for the unusual and the unconventional. Normally they have been in the van when a project called for an experimental approach. Private foundations have also been an important factor, along with all other sources of voluntary support, in maintaining diversity of values and independence of policy in our educational and comparable institutions. Hence, however understandable the motivation for the current expansion in governmental responsibility for education and research, it is difficult to avoid a certain uneasiness as to the ultimate effect this expansion may have upon the traditional American plural pattern of supporting education, research, and welfare institutions generally, and upon the social values inherent in that pattern. Objective observers are fearful that, unless great care is taken, we may damage that traditional pattern irretrievably.

Some of these doubts and fears could be allayed if, as Government moves forward with its own assistance programs, it made serious efforts, at the same time, to encourage the volume of voluntary giving and to foster a climate favorable to private support. As indicated in a subsequent page of this *Report*, the Council for Financial Aid to Education has shown that private support for education from all sources has grown appreciably during the past decade, and that the Council's own contribution to this stimulus has been considerable. Obviously, the Council's record indicates that much more could be accomplished if we were willing to place the necessary energy and direction behind a broad national effort to raise the level of private giving for all purposes. In other words, what is needed to dispel, in part, the fear of governmental hegemony in this field are other organized private efforts, along the lines explored by the Council and comparable agencies, to increase the flow of voluntary funds. Likewise, we must supplement efforts, such as

those of the Council, in making clear to the American public the political and cultural, as well as the financial, importance of private support for education and similar activities. By doing so, we might at least provide a healthy counter to the present trend which appears to be uniformly in the direction of increased centralization and increased governmental responsibility for the allocation of our resources for education, research, and similar activities.

In any case, unless the volume of voluntary support can be augmented and brought within reasonable equilibrium with the volume of support provided by Government, we do indeed face the possibility of altering our plural structure and losing the advantages which that system has given the nation. The problem is primarily one of the way in which we administer resources for these social objectives rather than of the adequacy of the resources themselves. As a nation, we are likely, ultimately, to spend what we think we can afford and what the times demand. The question is *how* we shall allocate and commit such resources: whether through Government, that is, exclusively through the tax route; or through the mixed public-private system such as we have used in the past, that is, through the tax route *and* voluntary giving. As suggested above, private support of our eleemosynary activities has advantages which have been demonstrated again and again. Hence, it is to be hoped that the American people, in adjusting to the current expansion of Government assistance, will comprehend the basic issues involved, take constructive steps to prevent serious modification of their traditional plural system of support for such activities, and avoid the substitution therefor of a system of support which relies upon the Government to pre-empt the necessary resources.

* * *

On the pages which follow this general review, an effort has been made to describe in some detail the principal projects which the Foundation has been supporting. These are classified according to the various areas in which the Foundation has recently been active. In addition, all other projects which have received support are listed although they are not described in detail. Finally, there is a detailed description of the Foundation's financial operations.

Industrial Management Programs

Projects in Support of Industrial Management

SCHOOL OF INDUSTRIAL MANAGEMENT– MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ALTHOUGH THE FOUNDATION has never had any general program for the support of projects in business administration or industrial management, it has occasionally made sizable grants for special projects in this area. The largest of these grants was made in 1950 to establish the School of Industrial Management at the Massachusetts Institute of Technology. The concept of the School had been developed over the years by Mr. Sloan, President of the Foundation, and an alumnus of the Institute. It was a concept strongly supported by the late Dr. Karl T. Compton, President of the Institute at the time. Their joint view was that, because of the increasing sophistication in technology which contemporary industrial leadership demanded, managerial skills taught within the confines of a leading center of technology, such as the Institute, and conditioned by its intellectual environment would produce an educational and research institution in business management peculiarly suited to the needs of the time.

As a result of this conviction, in December 1950, the Trustees of the Foundation made a grant of $5.25 million to enable the Institute to provide housing and equipment for the proposed School. By chance, at this particular time, the former headquarters building of Lever Brothers, located on Memorial Drive in Cambridge, immediately adjacent to the MIT campus, became vacant because the company had moved elsewhere. This building was subsequently purchased and, after appropriate renovations, became the physical center of the new School. The instructional and research program of the new unit was inaugurated in 1952, under the leadership of an MIT alumnus, Mr. Edward Pennell Brooks, who was appointed the School's first Dean.

Somewhat less than half of the original $5.25 million commitment of the Foundation was devoted to the capital cost of the building and its equipment.

Montage of meetings between European industrial and political leaders and members of the Sloan-MIT Fellowship Group in Executive Development, summer of 1960. Photographs by Dr. Thomas M. Lodahl of MIT.

The remainder, $2.75 million, became a commitment of the Foundation for support of operations, to be paid over a ten-year period at the rate of $275,000 per annum. This support grant of the Foundation will expire during 1961. For the time being, however, the Trustees of the Foundation have undertaken to continue support at a reduced rate.

At other times the Foundation has made other special grants to meet certain needs of the new institution. The largest of these was the commitment of $1 million, made in 1952, to provide an intramural fund for the support of the School's research program. According to the Deed of Gift, the Dean of the School, operating through appropriate agencies, may apply both the income and the principal of the fund for research purposes, if so minded.

The Foundation has been informed that the research budget of the School is currently in the neighborhood of $120,000 annually, most of which is derived from the $1 million fund mentioned above. In his final report in 1959, Dean Brooks stated that in its research program, the School continued to reflect the special Institute environment, maintaining its emphasis on mathematical approaches to the solution of business problems.

In 1952, when the School of Industrial Management was established, the Institute operated through four schools: Engineering, Science, Architecture, and the Humanities and Social Studies. The School of Industrial Management thus became the fifth of the Institute's major divisions. As early as 1914, an undergraduate program providing business training, or what is sometimes known as industrial engineering, had been created in the Institute to supplement the regular scientific and technological courses. This program was identified intramurally as "Course XV." The organization of the new School was, in part, an expansion of this course; and the present undergraduate program of the School continues this early option made available to certain Institute undergraduates. The enrollment of the School's undergraduate department is about 230 students, a figure which has remained fairly constant over the years. Students in this unit receive the degree of Bachelor of Science.

Of growing importance in the School's curriculum are the various postgraduate programs. The most conventional of these is the two-year curriculum leading to the degree of Master of Business Administration. The School reports that approximately 150 students are enrolled for this advanced degree.

Recently a doctoral program in industrial management has been established. It had previously been possible for graduate students in industrial management to obtain a doctorate in economics through the School of Humanities and Social Studies, in which is located the Institute's Department of Economics and certain other social sciences. Hereafter, in addition to the doctorate thus offered, graduate students will be able to obtain that degree directly under the auspices of the School of Industrial Management. Preparation for the new doctorate in management will require mastery of some conventional academic discipline, such as mathematics, psychology, or economics, and specialization in a functional area of business, such as production, distribution, or finance.

Of unique significance in the School of Industrial Management are its pioneer programs in executive development. Comment upon the 12 months' program for middle management, popularly known as the "Sloan Fellowship Program," appears elsewhere in this *Report*. Another more recent executive development program at the School is that for senior management personnel. In this new program, about 40 officers of corporations pursue special courses at MIT during a ten-week period.

The School of Industrial Management stresses four aspects of management. These are: the engineering and technological aspects; the relationship of industry to the body politic and to the national economy; the human aspects of management, approached through the social sciences and the humanities; and certain technical aspects of the operations of the economy, particularly the function of money, the price mechanism, and the profit system in production. In developing its curriculum, the School has relied heavily upon MIT's School of Humanities and Social Studies for specialists in such subjects as economic theory, statistics, social psychology, and industrial relations. The disciplines of the School of Industrial Management's own faculty have been, among others, finance, marketing, economic history, accounting, and certain specialized aspects of commercial law and management. In 1959-60 the faculty of the School comprised some 60 scholars, ten of whom were full professors.

In October 1959, Dean Edward P. Brooks resigned. He will continue at the School as Professor of Industrial Management. His successor is Professor Howard W. Johnson, who for some time had served as the School's Associate Dean and earlier, as Director of the Sloan Fellowship Program. During 1959,

Dean Johnson announced the formation of an Advisory Council of some 20 business and industrial leaders, of which Mr. Alfred P. Sloan, Jr. is Chairman. The Council, according to Dean Johnson, has been set up to provide advice and counsel, serve as a sounding board for new ideas in business research, and make more effective the School's communications with business and industry.

By 1960, the School of Industrial Management had reached a physical size and attained an intellectual stature and reputation as an educational and research center which required more generous facilities than were provided a decade ago. Accordingly, tentative plans have been made for a modest expansion of physical facilities. It is contemplated that during the next few years, the Institute will build two dormitories for graduate students in business management and for students in the various special postgraduate training programs of the School. These dormitories will have adequate facilities for common rooms suitable for student activities. They will also be equipped with underground parking spaces. In addition to the dormitories, plans call for a library for the research and educational needs of the School of Industrial Management, within which will be incorporated an auditorium of sizable proportions. Capital outlays for these developments will, it is estimated, eventually total some $6.5 million.

AMOS TUCK SCHOOL OF BUSINESS ADMINISTRATION–DARTMOUTH COLLEGE

Several years ago, the Foundation assumed responsibility for an annual commitment of $35,000 to the Tuck School of Business Administration of Dartmouth to assist in financing its intramural research and publications program. This commitment has been continued during the biennium under review, and a total of $70,000 has accordingly been made available to the School during that period. Responsibility for the distribution of these funds is lodged in a special research committee of the School. About half of the funds from the Foundation grant are devoted to special faculty grants for research.

In a progress report on the Tuck research program in 1960, Dean Karl Hill of the Tuck School stated that some 20 members of the faculty of the School and of Dartmouth College were directly involved in one or more research projects. During that year, 11 new projects were approved by the

School's committee on research. Among them were a study of tax and accounting procedures in research and development programs, long-range business planning for research and development, stock options as a form of executive compensation, various aspects of depreciation accounting, and the changing structure of commercial banking.

A report on research methods, also prepared in 1960 by a special subcommittee of the faculty and approved by the School's Board of Overseers, considered the problem of "individual" versus the so-called "group" approach to research. The committee indicated no inherent superiority of one method over the other and concluded that the research program at Tuck should be kept flexible. The committee also recommended that primary emphasis be given to studies on organizational behavior and "operations research."

The Tuck School, founded in 1900 as an associated School of Dartmouth College, was the first graduate school of business to be established in the United States. Ever since its founding the School has combined a professional business curriculum with the fourth year of the undergraduate program at Dartmouth to provide a joint five-year undergraduate-graduate curriculum in business administration. Under certain conditions the curriculum leads both to the regular Bachelor of Arts degree and to the degree of Master of Business Administration.

GRADUATE SCHOOL OF BUSINESS–COLUMBIA UNIVERSITY

Somewhat more than a year ago, Dean Courtney C. Brown, of the Graduate School of Business at Columbia, and his associates announced plans for new and enlarged facilities for this institution. It is estimated that these new facilities will cost in the neighborhood of $4 million or $5 million. Because of the Foundation's rather close association with the Graduate School of Business over many years and the excellent educational and research program which this institution has developed, the Foundation, contrary to its usual policy, made a gift of $150,000 toward this construction program. The gift was made in August 1959. Although no special limitations were placed upon the use of the funds, it was understood that a sizable portion of the grant would be used to defray the cost of certain plans and specifications and preliminary architectural and engineering work. The formal purpose of the grant, as stated at the time, was "to defray administra-

tive, developmental, and other costs connected with the planning and construction of a new center for the University's Graduate School of Business."

Other grants made to the School of Business during the biennium amounted to $20,000. These represent a continuation of support given by the Foundation for several years for the institution's so-called "Affiliated Business Fellows Fund." Begun several years ago, the Fund receives the support of various donors, chiefly foundations, corporations, and business establishments. The proceeds are used for two major purposes: first, to supplement certain faculty salaries; and second, to supply funds for intraschool grants for faculty research. According to the School of Business, this Foundation joined some 35 other donors in supplying funds to maintain this program during both 1959 and 1960.

THE GEORGE WASHINGTON UNIVERSITY

The ballooning scope of the Federal Government's research programs in matters relating to national security, health, and other subjects, and industry's own intramural research and development programs have emphasized the desirability of courses of instruction in universities concerned with the administration of research and development projects.

Under the leadership of Professor J. E. Walters, the School of Engineering at The George Washington University in the nation's capital has been giving such a course since 1954 to a considerable number of graduate students. In April 1960, Professor Walters requested the Foundation to finance the development of a new textbook and ancillary materials concerned with this general subject. Professor Walters indicated that several textbooks are available, but he stressed the need of more current materials on the management of industrial research in a period when projects of this type have assumed unusual proportions and require an increasingly large share of the budgets of government, industrial, and university laboratories.

The Foundation Trustees voted an appropriation of $9,500 to permit Professor Walters to carry out this project. He proposes to concentrate upon certain major industries and to study the actual planning, organization, management, and control of research and development programs in their laboratories. Eventually he intends to incorporate his data in a special text to be made available for the course at George Washington and for similar courses in other universities.

Programs in Executive Development

SCHOOL OF INDUSTRIAL MANAGEMENT— MASSACHUSETTS INSTITUTE OF TECHNOLOGY

THE FOUNDATION CONTINUES to make sizable grants for the support of an executive development project at the School of Industrial Management at Massachusetts Institute of Technology. As mentioned earlier, this project is known as the "Sloan Fellowship Program." It is probably the oldest program for postgraduate training for young business executives in America and has consequently become something of a model for other projects of the same nature. It was originally set up in 1932 on an experimental basis, six business executives, among them Mr. Sloan, having each agreed to support a young man from industry for one year at the Institute. In 1938, the late Dr. Karl T. Compton, then President of MIT, with the support of Mr. Sloan, transformed the project into a part of the regular instructional program of the Institute. Hence this project has been in almost continuous operation for more than a quarter of a century.

Immediately after the Second World War, the project supported a group of 16 or 17 students. The number was doubled subsequently, and a third contingent was added more recently, bringing the total to 44 students. The number varies slightly from year to year. For the greater part, the group consists of young executives between 30 and 40 years of age with some 10 or 12 years' experience in American industry. A small number of the participants come from industry located outside the United States, and a few more come from certain units of the Federal Government. In the group of Sloan Fellows in residence at Cambridge during the 1959-60 academic year, 37 came from corporations in the United States, and one each from India, Sweden, and Canada. United States armed forces establishments accounted for four.

It has been estimated that, between the inception of the program in 1932 and June 1960, some 422 young executives, coming chiefly from industry, have been enrolled. The largest percentage of these has attended in the years since the close of World War II. Between 1938 and 1960 some 146 American corporations sent students to the program. During that period, 26 of these corporations sent at least three representatives to the various classes. The continuous association of certain corporations with the project is indeed rather remarkable. By 1960 the American Telephone & Telegraph Company had had at least one student in the course every year for 13 years; General Motors, at least one for each of 12 years; and Eastman Kodak and Radio Corporation of America, at least one every year for 11 years. Five corporations and the United States Navy have each had at least one representative throughout a ten-year period.

In recent years the Foundation's annual contribution to this program has remained at a level of $250,000. These funds are used primarily for the payment of special instructional and overhead costs incurred by the Institute for this project. Proceeds of the Foundation's grants are also used to finance certain of the more unusual or "fringe" activities of the project, such as field trips. By far the larger share of the total cost of the program is borne by industry. According to a recent computation, the Foundation's contribution to the total cost of the program is about 23 per cent. Normally, industry pays the regular salaries of the young executives while they are on 12 months' leave at Cambridge, the cost of moving their families to Cambridge, and the Institute's tuition for the course. Industry also defrays certain special expenditures of the student.

Over the years, the School of Industrial Management has developed a special curriculum for this program which continues for the entire calendar year. It is the longest course for projects of this nature in the United States. Because of the length of the student's stay at the Institute, it has been possible to provide a curriculum in which study can be quite intensive and still comprehend a variety of disciplines. During some three months of the summer term, the curriculum introduces the students to certain specialized problems of management, such as accounting control, price policy, the monetary structure, personnel administration, and industrial relations. These and comparable subjects are given further consideration later in the year. At appropriate intervals the curriculum also includes such topics as management philosophy, problems of foreign policy, problems of business size, human relations, and industrial psychology.

Since its inception, the program has been distinguished by its emphasis upon direct contact with the operations of industry and government. Such contact is maintained in various ways. In the preparation of his thesis a student occasionally engages in "field work," which may involve plant visitations and extensive discussions with managerial and staff personnel in plants. The entire group of students also maintains a "collective" contact with industry and the management of public affairs. This is maintained, in the first instance, by a series of seminars led by business and other leaders. These seminars, known as the "industrial management seminars," bring to Cambridge throughout the year not only the heads of major corporations but staff specialists whose experiences are closely related to certain of the more formal aspects of the curriculum.

Mr. Frank A. Howard, Foundation Trustee, with MIT-Sloan Fellows in Executive Development at annual dinner at the Plaza Hotel, New York, December 1960. Photograph by A. F. Sozio.

A second method of maintaining collective contact with industry and government is through field trips in which all students participate. Traditionally these have involved a visit to the New York metropolitan area in the late fall and one to Washington, D.C. in the spring. In 1959 an experimental trip was made to Western Europe to meet governmental and industrial leaders of that area. This two-week trip, made by plane, included visits to the more important Western European capitals—London, Paris, Brussels, Bonn—and several other cities. Visits were made to banks, industrial plants, government departments, and to the headquarters of such European organizations as the Organization for European Economic Cooperation, the European Economic Community, and the European Atomic Energy Community. Leading industrialists, bankers, heads of embassies, and political leaders were generous in the time given to the 44 young men who made this visit abroad.

Because of the length of the program and the possibility of providing a curriculum which is substantively equivalent to a regular graduate program, the School of Industrial Management at MIT has integrated this developmental project into its graduate activity. Students in the management program who, in addition to fulfilling the normal course and other requirements, also complete a thesis receive the degree of Master of Business Administration. With one or two exceptions, all the students in the group have in recent years completed the thesis and taken the degree.

Administrative responsibility for the project is vested in a Director of Executive Development Programs. Currently this officer is John M. Wynne, who is himself a product of the program. The teaching staff is derived not only from the faculty of the School of Industrial Management, but also from the faculty of the School of Humanities and Social Studies in which, as has been mentioned earlier in this *Report*, the Department of Economics and Social Science is located.

The Institute's leaders and other observers have offered a variety of reasons for the project's relative success over the years. Among the more important reasons are the care taken in selecting mature young executives of high quality and promise; the intensive nature of the training extending over an entire calendar year; and the fact that industry is willing to allow members of its executive staff to divorce themselves completely from their executive responsibilities and to go with their families to Cambridge.

Another reason frequently given is the broad nature of the curriculum which, from the beginning, has supplemented what might be called "professional" business subjects with courses in history, economic theory, international relations, psychology, and human relations. Still another consideration often cited is the relatively extensive and systematic field work incorporated in the student's program.

TEACHING INTERNS IN BUSINESS MANAGEMENT

Since 1959 funds from the Foundation have been made available to selected young men, working toward their doctoral degree, to join this project at Cambridge as "teaching interns." As will be noted in the next section, this has been a feature of the Stanford-Sloan executive development project since its inception. At MIT, fellowship awards with fairly substantial stipends are given to young scholars who have completed all the requirements for the Ph.D except the thesis and who are professionally interested in becoming college or university teachers in business administration, or who are already teaching and wish to expand or improve knowledge of their specialty. The first group of three such scholars, coming from the Universities of California and Arkansas, and from Hillsdale College, joined the project for a 15 months' period in 1959. For the 1960-61 period, the School of Industrial Management reports that four interns were selected competitively from a sizable field of applicants.

GRADUATE SCHOOL OF BUSINESS—STANFORD UNIVERSITY

After a three-year experimental period, the Foundation in 1960 decided to renew support at Stanford University of a project in executive development similar to the activity at Massachusetts Institute of Technology. A student admitted to the Stanford program, as in the comparable MIT program, must have had a certain amount of business experience; and his record, as appraised both by Stanford and the company by which he is employed, must indicate not only mastery of the specialized business area in which he has been active, but also broad leadership potential. Other criteria applied by Stanford in the selection of members of this special program indicate a preference for students who, in their undergraduate career, majored in the physical sciences or in an engineering discipline;

however, majors in other disciplines are not excluded. Successful candidates for this program usually fall within the age range of 30-37 years.

Although the students are in residence for some nine months, a period equivalent to a normal academic year, the members of the Stanford group, coming from industry, do not acquire an advanced degree. However, the period of study is long enough to make possible an academic program of considerable scope and depth. The curriculum embraces courses from several of the social sciences, including appropriate professional subjects.

A feature of the Stanford curriculum is the cooperative research project which the students select and to which all contribute. This project involves not only appropriate library research but also field investigations, and the results are brought together in book or pamphlet form. In the past two years such research projects have resulted in two pamphlets, one of which concerns itself with the motivations of scientists and engineers, while the second is concerned with a study of operations research in non-industrial firms. These have been published and have enjoyed a considerable circulation.

Outstanding West Coast and national corporations have sent representative executives to this program since 1958. Among the companies involved have been Allis-Chalmers, Continental Oil, General Motors, Kaiser Steel, Lockheed Aircraft, Radio Corporation of America, Pacific Gas and Electric, and the Standard Oil Company of California. The companies that select men for the Stanford course grant them a leave of absence with pay and finance tuition and certain incidental expenses.

From the beginning of the Stanford project, the group of 18 Fellows has included six so-called "teaching interns." These are students regularly enrolled in the Graduate School of Business who are planning to obtain their Ph.D. at the institution. However, for one academic year they participate regularly in the special program set up by the Business School. The association of these teaching interns with so-called "Business Fellows" in

Top: *From left to right: Professor Paul E. Holden, Director of the Stanford-Sloan Program in Executive Management at the Graduate School of Business, Stanford University, June 1960; Mr. Sloan; Ernest C. Arbuckle, Dean of the Graduate School of Business at Stanford.*

Bottom: *Mr. Alfred P. Sloan, Jr. with Fellows in the Executive Management Program at the Graduate School of Business, Stanford University, June 1960.* Photographs by Stanford University.

joint seminars and other activities has, in the judgment of the Stanford educational authorities and observers, yielded results of great benefit to both groups. During their association with the project, the teaching interns are supported by special fellowships from the Foundation. These carry a stipend approximating $5,000. Beginning in 1960, the Foundation has undertaken to support these interns with stipends for a second year.

The present administrator of the Stanford group is Dr. Paul E. Holden, Professor of Industrial Management, Emeritus. Professor Holden has exercised the responsibility of Director from the beginning of the project in 1957. He has indicated that he will retire from this post during 1961 and will be succeeded as Director by Dr. Carlton A. Pederson, Associate Dean of the Graduate School of Business and Professor of Business Management.

Programs in Support of Education

Alfred P. Sloan National Scholarship Program

As indicated earlier, one of the Foundation's first projects after its establishment in the 1930's was a fellowship project for the training of young executives. This interest in the education of youth has continued to be a major concern of the Foundation and has found expression in numerous projects. Perhaps the most important of these is the Alfred P. Sloan National Scholarship Program. Introduced with a modest appropriation in 1952 to support some 26 undergraduates in four technological institutions, it has grown steadily over the years. Currently (1961) it provides stipends for some 500 young men in 35 of the nation's leading institutions. These institutions include not only the four original schools of technology but numerous liberal arts and science colleges and several of the great private and public universities.

In one of the first brochures describing this project, the Foundation stated that its purpose was to provide financial assistance at selected American educational institutions for young men of talent, imagination, and intellectual curiosity who offered promise of excelling and becoming leaders in their future professions. This broad objective has determined the criteria used to identify the students who are brought into this scholarship program. The aim is to find young men who, at the precollege level, have exhibited unusual industry, initiative, and achievement in enterprises which are intrinsically worthwhile. Successful candidates must have the highest reputation for personal integrity in their respective communities, and they must have exhibited a capacity for assuming and discharging responsibilities.

The actual selection of students for these scholarships is made by each of the 35 institutions which participate in this program. For the greater part, the institutions apply the usual tests for admission and require that successful candidates attain high standing in the achievement and aptitude tests administered by the College Entrance Examination Board, or that other evidence of academic promise be furnished. Those awarded scholarships must have fulfilled whatever preparatory course requirements a particular college or university may demand. However, in all cases, the colleges and universi-

Top: *Informational materials relating to the Alfred P. Sloan National Scholarship Program sent annually to secondary schools throughout the country.* Photograph by A. F. Sozio.

Bottom: *Mr. Joseph Allen, Administrator of the Program, with groups of students and college administrators.*

ties which award the scholarships try to apply the broader, more general criterion of leadership potential which the Foundation at the very outset of the program indicated it wished to discover and foster in young men identified as "Alfred P. Sloan National Scholars."

The following institutions are currently participating in the Foundation's National Scholarship Program:

Albion College
Amherst College
Antioch College
Bowdoin College
Brown University
California Institute of Technology
California, University of
Carleton College
Carnegie Institute of Technology
Case Institute of Technology
Colby College
Colgate University
Columbia University
Cornell University
(College of Engineering)
Dartmouth College
Georgia Institute of Technology
Harvard University
Illinois, University of
Johns Hopkins University, The
Knox College
Lehigh University
Massachusetts Institute of Technology
Michigan, University of
Minnesota, University of
Notre Dame, University of
Oberlin College
Occidental College
Ohio State University, The
Purdue University
Stanford University
Vanderbilt University
Wabash College
Whitman College
Williams College
Wisconsin, University of

The Foundation makes grants to these institutions, and they in turn determine the actual stipends granted the successful candidates for scholarships. In addition, in the case of privately supported colleges, universities, and technological institutions, the Foundation makes an additional unrestricted contribution to the college to help overcome, at least in part, the difference which normally exists between the full cost of educating the student and the amount contributed by the student in the form of tuition payments.

In selecting students for this program, institutional authorities do not make economic need a primary criterion. Once selected for a scholarship, however, the successful student's economic requirements are carefully investigated, and stipends are then determined according to his calculated economic needs. Currently the maximum annual stipend is $2,000. In determining the student's economic need, most of the institutions involved in the program are assisted by the College Scholarship Service of Princeton, New Jersey.

Successful candidates for the Sloan National Scholarship who are considered able to finance their education either with their own resources or with the support of their respective families are given the status of honorary Sloan Scholars. Such Scholars receive a minimum annual stipend of $200.

Stipends are re-evaluated every year and adjusted to meet the changing financial need of the student. Normally a freshman who is awarded a scholarship continues to hold it throughout the four-year college period, provided he maintains a reasonably high academic average. In the case of the publicly supported institutions, such as certain of the state universities, the duration of the scholarship is limited to the last two years of the undergraduate program. Because of the relatively low fees charged the student in such institutions, the maximum stipend under the Sloan Program is somewhat lower than at the private institutions. In actual practice, college officers have the administrative freedom to tailor individual stipends to meet the specific needs of each Scholar. In 1960 some 5 per cent of the students received the maximum of $2,000; approximately 10 per cent received the minimum of $200; other stipends varied within this range, but the median was about $1,400.

The Foundation has relied heavily upon the participating institutions in the conduct of this program. From the very start, it was felt that it should be administered on a decentralized basis by college officers most qualified to select scholarship recipients and follow up on their progress during the normal undergraduate years of study. Liaison with these individual administrators is provided by a member of the staff of the Foundation. Serving as "Administrator of the Alfred P. Sloan National Scholarship Program," he visits each college campus annually, meeting both with the Sloan Scholars and the designated college administrators. In addition, by means of annual announcements, he informs high schools throughout the country of the opportunities provided by these awards. It has also become the custom of the Foundation to invite representatives of the participating institutions to a meeting each year. By these means, it is hoped that the Foundation will continue to benefit from the experience which exists on each campus and adjust various features of the program from time to time to insure its maximum effectiveness.

The chart on the following page indicates the distribution of the 449 students holding scholarships in 1960. A fairly broad geographical representation has been achieved.

DISTRIBUTION OF SLOAN NATIONAL SCHOLARS
ACCORDING TO STATE OF ORIGIN

	Number by classes graduating in: '61	'62	'63	'64	Total
Alabama	—	—	1	1	2
Arizona	1	2	1	3	7
California	18	17	10	10	55
Colorado	1	1	—	3	5
Connecticut	1	3	1	4	9
Delaware	1	—	—	1	2
Florida	1	1	3	1	6
Georgia	1	1	3	2	7
Hawaii	1	—	1	—	2
Illinois	10	10	9	9	38
Indiana	3	5	5	2	15
Iowa	1	—	—	—	1
Kansas	2	2	—	2	6
Kentucky	1	1	—	—	2
Louisiana	1	—	1	—	2
Maine	—	—	1	—	1
Maryland	3	3	2	3	11
Massachusetts	2	4	4	5	15
Michigan	9	8	3	5	25
Minnesota	6	6	4	2	18
Mississippi	—	1	—	1	2
Missouri	2	3	2	3	10
Montana	1	1	1	—	3
Nebraska	—	—	—	1	1
Nevada	—	—	—	1	1
New Hampshire	1	2	—	—	3
New Jersey	6	2	5	7	20
New Mexico	—	1	1	—	2
New York	12	10	3	13	38
North Carolina	1	—	—	—	1
Ohio	11	13	7	9	40
Oklahoma	—	2	3	1	6
Oregon	3	2	—	2	7
Pennsylvania	3	6	15	3	27
Rhode Island	—	1	—	—	1
South Carolina	—	1	—	—	1
Tennessee	1	3	5	2	11
Vermont	1	—	—	—	1
Utah	—	1	—	—	1
Virginia	2	4	2	2	10
Washington	1	4	3	7	15
Wisconsin	9	6	—	3	18
Washington, D. C.	1	—	—	—	1
	118	127	96	108	449

About 88 per cent of this group of students did their preparatory work in public high schools; the remainder came from independent private schools. Among the schools which have supplied the greatest number of holders of Sloan Scholarships are the following:

Baltimore Polytechnic Institute, Baltimore, Maryland
Evanston Township High School, Evanston, Illinois
Glenbrook High School, Northbrook, Illinois
Phillips Academy, Andover, Massachusetts
Shaker Heights High School, Shaker Heights, Ohio
Shawnee Mission High School, Merriam, Kansas

Since the program has been in operation only eight years, the number of graduates has been relatively few. Of the young men who have come out of this program, a great majority has gone on to graduate and professional school. The following tabulation, prepared in 1960, indicates the then current professional status of 140 graduates of the classes of 1957, 1958, and 1959 and their ultimate career objectives:

PROFESSIONAL STATUS

Total	140	(100%)
Seeking graduate degree	101	(72%)
Military service	6	(5%)
In industry	33	(23%)

FELLOWSHIPS AND ASSISTANTSHIPS
(Held by 86 of the 101 Scholars seeking graduate degrees)

Total	86	(100%)
National Science Foundation	12	(14%)
Woodrow Wilson Fellowships	10	(12%)
Other fellowships	47	(54%)
Assistantships (Teaching or Research)	17	(20%)

CAREER OBJECTIVES

Total	140	(100%)
Research or teaching	67	(48%)
Law, medicine, etc.	21	(15%)
Industry	28	(20%)
Undecided	24	(17%)

The great majority of the students in the program favor the sciences, mathematics, or one of the engineering disciplines. In part, these preferences are explained by the fact that many of the scholarships are awarded by engineering and scientific institutions. The relevant illustrative statistics are provided

by the following summary of the choices of academic majors of 233 upperclass Scholars in 1960:

Mathematics	17	(7.2%)
Physical Sciences	65	(27.8%)
Life Sciences	24	(10.3%)
Engineering	75	(32.4%)
Business Administration & Economics	23	(9.8%)
Other Social Sciences	16	(7.0%)
Other	13	(5.5%)

By 1964, when the participating institutions will be awarding the maximum number of scholarships now contemplated, the Foundation will expend approximately $947,000 annually for this program. Of this total, some $235,000 represents the amount which goes directly to the various private colleges and universities as an unrestricted contribution, to which reference was made earlier, to offset at least in part the difference between tuition and the actual cost of education. The balance, $712,000, is applied as stipends to meet the individual needs of some 500 Sloan Scholars at both the private and state institutions.

The actual expenditure in 1960 for both stipends and unrestricted institutional use was $850,000. However, since each grant for scholarships includes an obligation to continue a Scholar's stipend throughout four undergraduate years (two years in the case of certain state universities), there always exists a commitment for present students during future years. In 1960 this over-all Foundation commitment for the Scholarship Program was approximately $2.4 million.

EXPERIMENTAL SCHOLARSHIP-LOAN PROJECT

For a considerable period, the Foundation has felt that greater emphasis should be placed upon student loans as a means of financing higher education. During the past five years, various proposals, having this objective, have been considered and reviewed by the Board of Trustees. Recently, the Trustees voted funds to experiment with one of these proposals at some nine colleges and universities. The Trustees provided funds to enable these nine institutions to assist certain of their freshman students who entered in September 1960 for a four-year period, and also certain of their sophomores

who resumed their work in September 1960. The institutions participating in the experiment were asked to develop an "assistance package" for the selected students, in which roughly half of the student's ascertained financial needs would be financed by a loan and the remainder by a scholarship gift. Each institution was provided with a grant which equaled the product of its tuition multiplied by the number of "assistance packages" or "scholarship-loan units" that institution was to award to students in each of the two classes involved. Title to that portion of the funds provided by the Foundation for loan purposes vested in the institution. Thus, upon repayment of the loan by the student-borrower, the institution was authorized to use the funds without restriction, either relending them or applying them to some other educational purpose. Interest rates and other conditions governing the loan were to be those in vogue in the participating institution.

Altogether some 118 "assistance packages" or "scholarship-loan units" were authorized for the nine participating institutions. The Trustees committed some $540,050 for these 118 units, of which 59 were for freshmen for four years, and 59 for sophomores for three years, beginning in September 1960. The nine institutions participating in the experiment and the number of "scholarship-loan units" for two classes assigned each institution are as follows:

INSTITUTION	NUMBER OF UNITS
California Institute of Technology	12
Cornell University	12
Massachusetts Institute of Technology	26
Johns Hopkins University, The	6
Bowdoin College	6
Brown University	8
Dartmouth College	20
Notre Dame, University of	8
Stanford University	20

Immediate reaction on the part of the participating colleges and universities was that this type of assistance program was especially helpful in meeting the needs of a sizable number of enrolled students. The combination of a scholarship and a loan, in appropriate proportions, may well become the dominant form of financing a college education in the future. It is too early, however, to determine with any finality the desirability of maintaining such a program as this indefinitely.

Grants to Certain National Educational Organizations

COUNCIL FOR FINANCIAL AID TO EDUCATION, INC.

THE FOUNDATION HAS CONTINUED to make occasional grants to certain national educational organizations, either for the support of their broad program or for particular projects.

The first of these organizations, so listed because it received the greatest volume of financial support from the Foundation, is the Council for Financial Aid to Education, Inc. Previous *Reports* of the Foundation have identified the special financial responsibility which it and certain other foundations assumed when the Council was established in 1953. An initial grant of $150,000, made at that time, was payable over a three-year period. The grant was matched by three other foundations. Mr. Sloan, President of the Foundation, was one of the founding members of the Council along with other leading industrialists, among them Messrs. Irving S. Olds, Frank W. Abrams, the late Henning W. Prentis, Jr., and the late Walter P. Paepcke. Mr. Sloan continues to be a member of the Council's Board and Executive Committee.

Since its initial commitment, the Foundation has made other grants to the Council both for general support and for special projects. These have normally been made in conjunction with similar grants from other foundations, usually those who were involved in the original financing. In 1958 the

Top: *Displayed are some of the promotional and research materials of the Council for Financial Aid to Education, Inc.*

Bottom: *Executive Staff of the Council. Clockwise: Dr. John A. Pollard, Vice President—Research; Dr. Frank H. Sparks, President; Francis G. Pray, Vice President—College Relations; Laura Barrett, Secretary and Assistant Treasurer; Eldredge M. Hiller, Vice President—Public Information; Kenneth G. Patrick, Vice President—Corporate Relations.* Photographs by A. F. Sozio.

Foundation made a five-year commitment of $375,000, payable at the rate of $75,000 per annum. This commitment, previously announced, will continue to September 30, 1963. Additionally, in the past two years, the Foundation contributed $37,500 for special project purposes to be commented upon later.

At the time of the organization of the Council, the prime purpose of the industrial leader-founders was to stimulate a greater flow of funds from corporate business to higher education. It was felt that much of the responsibility for the necessary income should be assumed by industry in a period when higher educational plant and facilities would have to expand and be modernized, and when staff salaries would have to be brought up to a more acceptable professional level. Those who established the Council believed that, if the facts concerning the needs of higher education in the next two decades were made clear to the nation's industrial leadership, it would respond generously.

The Council has promoted this purpose rather successfully. Its published reports show that the volume of industrial giving has increased substantially since the Council's founding in 1953. A recent report points out that among nine sources of voluntary contributions, corporate giving enjoyed the fifth highest rate of increase, having risen in a five-year period by as much as 150 per cent. Private estimates indicate that, in 1953, when the Council was organized, gifts to higher education from all sources totaled about $420 million per year. By 1960 the flow of funds was twice that figure. The Council can justly claim an appreciable share of the responsibility for this increase.

Among the special activities recently developed by the Council has been a program of regional seminars for college and university executives, a project for which this Foundation made the commitment of $37,500 previously mentioned. The purpose of these seminars is to determine the future financial needs of higher educational institutions within each area and to improve the efforts of the colleges and universities in interpreting their financial requirements to prospective donors, especially corporations. The seminars were directed by Mr. Francis C. Pray, the Council's Vice President for College Relations. Five of these were held in 1959 and ten in 1960. These were in addition to three earlier seminars. It is estimated that during the period of this seminar program, some 900 public and private institutions

were represented at the meetings by their chief executives and quite a number more were represented by other officers.

In addition to the seminars, the Council has expanded its informational activities and has continued its research and publications program. In a recent article entitled "Emerging Pattern in Corporate Giving," published in the *Harvard Business Review*, May-June 1960, Dr. John A. Pollard, the Council's Vice President for Research, indicates that corporations have come to regard support of education not as a mere philanthropy, but as an investment of direct benefit to the corporation itself and that they are administering aid programs much more systematically than formerly. He states that corporations that have investigated the problem of supporting higher education believe that it warrants the attention of specially trained staff personnel. He also states that industry is convinced that it must help to "nourish the main sources of educated man power," and that it is in its own self-interest to "maintain the present broad base of support for higher education."

Among the Council's many publications which appear regularly is a survey of voluntary support of America's colleges and universities. Commenting editorially on a recent edition of this report, *The New York Times* complimented the Council on having rendered a "conspicuous public service," adding that the survey would "be invaluable for those who want to measure and analyze the support which higher education has already obtained from 'voluntary giving' and for those concerned with its expansion in the future . . ."

The Council's address is 6 East 45th Street, New York 17, N. Y. Mr. Irving S. Olds continues as Chairman of the Board of Directors, and Mr. Frank W. Abrams serves as Chairman of the Executive Committee. Dr. Frank Sparks, President Emeritus of Wabash College, is the President; and Dean Courtney C. Brown, of the Graduate School of Business of Columbia University, is the Council's Treasurer.

INDEPENDENT COLLEGE FUNDS OF AMERICA, INC.

Somewhat allied to the Council in purpose is the Independent College Funds of America, Inc. This organization, which is presently located in New York City, is an outgrowth of the Commission on Colleges and Industry

of the Association of American Colleges. The immediate aim of the Commission, which at the time of its establishment was led by Dr. Frank H. Sparks, was to supplement the efforts of numerous state and regional associations of colleges to secure corporate funds for higher education and provide these associations with a national vehicle for their efforts. Initial financing by the Foundation was given to the Commission on Colleges and Industry in 1954. Other funds were supplied the Commission by various corporate foundations. In 1958, following considerable discussion within the Association of American Colleges and among the state and regional associations, the new Independent College Funds corporation was established, and the work of the Association's Commission on Colleges and Industry was merged with the activities of this new entity.

The Independent College Funds of America, Inc. operates under the direction of a board of trustees composed of numerous college presidents, directors of some of the state and regional associations of colleges, and interested business executives. Its Director is Dr. Gerald P. Burns, formerly Vice President of Reed College. Its President in 1961 is Dr. Louis T. Benezet, head of Colorado (State) College. Among the stated objectives of the new organization is that of assisting higher educational institutions in appealing to industry for support on a nationwide basis, of facilitating cooperation among the state associations of colleges, and of engaging in appropriate research and disseminating the results thereof.

Since the creation of the new national organization, the number of state and regional college associations has grown to 40. They represent some 477 institutions of higher education, all of them privately supported. According to statistics furnished the Foundation, corporate giving to the affiliated colleges, channeled through the state and regional associations of colleges, has risen from approximately $2.7 million in 1954 to $7.9 million in 1958. In that same period the number of corporate givers has risen from approximately 2,000 to 7,600. Since their establishment, two of the state associations of colleges, one in Indiana and one in Ohio, have each raised more than $4 million for their affiliated colleges.

Although maintenance of the Independent College Funds of America, Inc. comes chiefly from the state and regional associations with which it is

affiliated, from industry, and from corporate foundations, the Alfred P. Sloan Foundation has continued to make contributions to supplement its earlier ones for this project. A grant of $10,000 was made in 1959 and another of the same amount was authorized in 1960, to be paid in 1961.

ASSOCIATION OF AMERICAN COLLEGES

During 1960, two grants were made directly to the Association of American Colleges. The Association presently represents approximately 750 liberal arts colleges. The first of these grants, amounting to $10,000, was given to this organization to assist it in financing the activities of one of its Commissions, namely, the Commission on Preparation for Professional and Graduate Study. During the past two years, this body, under the leadership of Dr. Frederic W. Ness, Vice President and Provost of Long Island University, has been engaged in examining into the development of graduate instruction among the Association's member liberal arts colleges.

The second grant to the Association, in the amount of $9,000, is intended to finance a special investigation of certain aspects of higher education in selected European countries. This investigation will be conducted by Dr. Theodore A. Distler, the Association's Executive Director, and former President of Franklin and Marshall College. Dr. Distler will be particularly concerned with a survey of the financing of higher education in Europe and with the relationships which exist between the universities and the state instrumentalities concerned with education.

Other Foundation Projects in Support of Education

PROJECTS IN SECONDARY EDUCATION

Syracuse University. Funds made available by this Foundation for education have almost invariably been given to projects in higher education. During the last five years, however, the widespread discussion about the status of secondary education led the Foundation's Trustees to make certain experimental grants for projects at this level. Some of these were for the training of teachers. Others were for curricular materials.

For the training of teachers, the Foundation undertook responsibility, some four years ago, for three experimental projects. The first of these was established at Syracuse University and was designed to assist in broadening the training of secondary-school teachers in the field of mathematics. This activity, known as the "Madison Project," was originally set up in 1958 with a grant from the Foundation of $85,000. General administrative responsibility for the project was vested in the University's Department of Mathematics, of which the Chairman is Professor D. E. Kibbey. The director of the project itself is Professor Robert B. Davis.

Teachers in the Syracuse metropolitan area and in communities adjacent to Syracuse arranged to participate in this project on a part-time basis, having been released from their teaching duties by their respective boards of education during certain periods of the week in order to attend seminars at the University. By means of appropriate publications and lectures, the project's staff, and particularly Professor Davis, brought the activities of the project to a much wider academic audience than the immediate professional group at Syracuse.

In commenting on the purposes and achievements of the project in an appraisal recently sent to the Foundation, Dr. Davis stressed the importance of providing opportunities for professional growth to secondary-school teachers, as in the Syracuse project. He pointed out that this was essential in the field of mathematics, where theoretical and applied developments have been so extensive in recent years. The teachers enrolled in the project suggested that it had assisted them in three ways: (1) by stimulating them to continue study of advanced mathematics; (2) by acquainting them with newer approaches to mathematics; and (3) by making it possible to discuss academic ideas and problems with their professional colleagues and with the staff at Syracuse.

During 1960, the Foundation made an additional grant of $50,000 for general support of this project, this grant being considered a terminal one for this activity.

University of Michigan. A dual training program, somewhat more conventional in character, was that undertaken at the University of Michigan in conjunction with its Horace H. Rackham School of Graduate Studies. One purpose has been to increase opportunity for qualified young men and women, holding baccalaureate degrees, to secure graduate training both in professional educational subjects and in their professional disciplines with a view to preparing for careers as secondary-school teachers. One-year fellowships are offered, and preference is given students who have majored in mathematics or some scientific discipline. In the academic year of 1959-60, fellowships were awarded to eleven students.

Additionally, Foundation funds have been made available to permit teachers in Michigan's secondary-school system to improve their professional capacity by pursuing advanced work. The University's Graduate School maintains certain so-called "continuation centers" in various locations in the State where the teachers may pursue certain courses. Subsequently, in order to secure an advanced degree, they must complete requirements in substantive disciplines at the University at Ann Arbor. The funds of the Foundation are being used to make it possible for selected teachers to do this special work at the Ann Arbor campus during the summer, by defraying expenses for tuition, living, and also certain travel costs for the teacher and his immediate family. The University has informed the Foundation that

each summer about a dozen teachers take advantage of this opportunity to advance or complete their work toward a master's degree.

The original grant for this dual developmental project at the University of Michigan was $27,500. In 1960 the Trustees of the Foundation renewed their commitment to the University for a two-year period at the same rate as the original grant.

Harvard University. A third effort to assist in improving the education of teachers at the secondary-school level is a project undertaken at the Graduate School of Education at Harvard with a Foundation grant of $100,000, authorized in March 1958. Here again the purpose is to provide fellowships to make it possible for the University to motivate and attract to the profession college graduates of outstanding capacity who might hesitate to enter upon the necessary graduate training because of lack of means. Stipends range from a minimum of $300 to somewhat over $2,000 with the median around $1,200. Again preference is given to college graduates who have majored in one of the sciences or in mathematics and who are likely to become teachers of one of those disciplines.

The Trustees were attracted to the Harvard teacher-training program for a variety of reasons, among them the outstanding capacity demonstrated by Dean Francis Keppel and his associates in recruiting young people of high promise from some of the nation's leading educational institutions, the cordial and effective relationships which the Graduate School of Education maintains with outstanding school systems in the Boston area, and also the imaginative way in which Harvard has attempted to combine the teaching and curricular resources of a professional school of education with similar resources made available by other schools and faculties at Harvard University. In his report to the Foundation, Dean Keppel stressed the value of these and similar fellowship funds because they make possible the choice of the most gifted and highly motivated young people for this graduate course, which at Harvard leads to the degree of Master of Arts in Teaching.

During 1960 the Foundation Trustees reiterated their confidence in this program by renewing the original grant, committing an additional $100,000 for its support. The program is currently providing fellowship funds annually for an average of 35 students.

Physical Science Study Committee. Another project in the area of secondary education, this one, however, concerned primarily with the preparation of new curricular materials, is one known as the Physical Science Study Committee in Cambridge, Massachusetts. Its prime purpose has been the revision of the course in physics in the nation's secondary schools. The revision has sought to provide a systematic introduction to the major concepts of modern physics, including especially some of the newer theoretical concepts and new empirical knowledge. Additionally, those in charge of the project have emphasized the desirability of providing not merely the conventional textbook but supplementary instrumentalities of communication with the student, such as special monographs, classroom films, and demonstration apparatus. A unique feature of the project has been its enlistment of the interest of some of the world's leading physicists as well as outstanding secondary-school teachers and administrators.

Some titles of the science "paper-backs" for students and laymen written by leading scientists and produced by the Physical Science Study Committee of Educational Services, Inc., Watertown, Mass. Distributed by Anchor Books, Doubleday & Company, Inc., Garden City, N. Y. Photograph by A. F. Sozio.

The Sloan Foundation's association with this project has been relatively limited, the major portion of the financial assistance having come from the National Science Foundation and the Ford Foundation. The Sloan Foundation made a commitment of $250,000 to the project's budget in October 1957. During the period under review, the only additional contribution which the Foundation has made was a grant of $6,000 in 1959, the proceeds of which are to be used to assist in financing an investigation of the desirability of improving science instruction, and particularly the materials for such instruction, at the elementary-school level.

The work of the Physical Science Study Committee is under the direction of a special corporation recently created and known as Educational Services Incorporated, located in Watertown, Massachusetts. Funds for the work of the Committee are contributed to this corporation.

During 1960, the Committee has moved forward rapidly in fulfilling its program of more than 50 films concerned with special problems in physics. It has published its new textbook in physics, which appeared in 1960 with a preface by Dr. James R. Killian, Jr., Chairman of MIT and Chairman of the Board of Educational Services Incorporated. It has also been most successful in producing for distribution generally and for students a splendid library of monographs on aspects of the history of various concepts of physics. For the publication and distribution of these curricular materials Educational Services Incorporated has contracted with certain commercial distributors. The textbook, *Physics*, for example, is published and distributed by D. C. Heath and Company. The monograph series is published as "Anchor Books" by Doubleday and Company, Garden City, New York. The monographs are also made available to secondary-school students and teachers by special arrangement with the Wesleyan University Press Incorporated of Columbus, Ohio.

Midwest Airborne Television Center. Still another secondary-education project with which the Foundation has recently become identified in a limited way is the Midwest Program on Airborne Television Instruction. This is an experiment for which leadership has been provided by the Ford Foundation. Experiments conducted after World War II proved that telecasting limits could be greatly expanded if transmission occurred from above the earth rather than from ground-based stations. It is estimated that transmission from 25,000 feet assures simultaneous telecasting over an area having a radius of 200 miles. This particular project accordingly planned experimental telecasting from a plane over north central Indiana, feeding instructional programs to two V.H.F. channels. It is expected that the programs will reach as many as five million students.

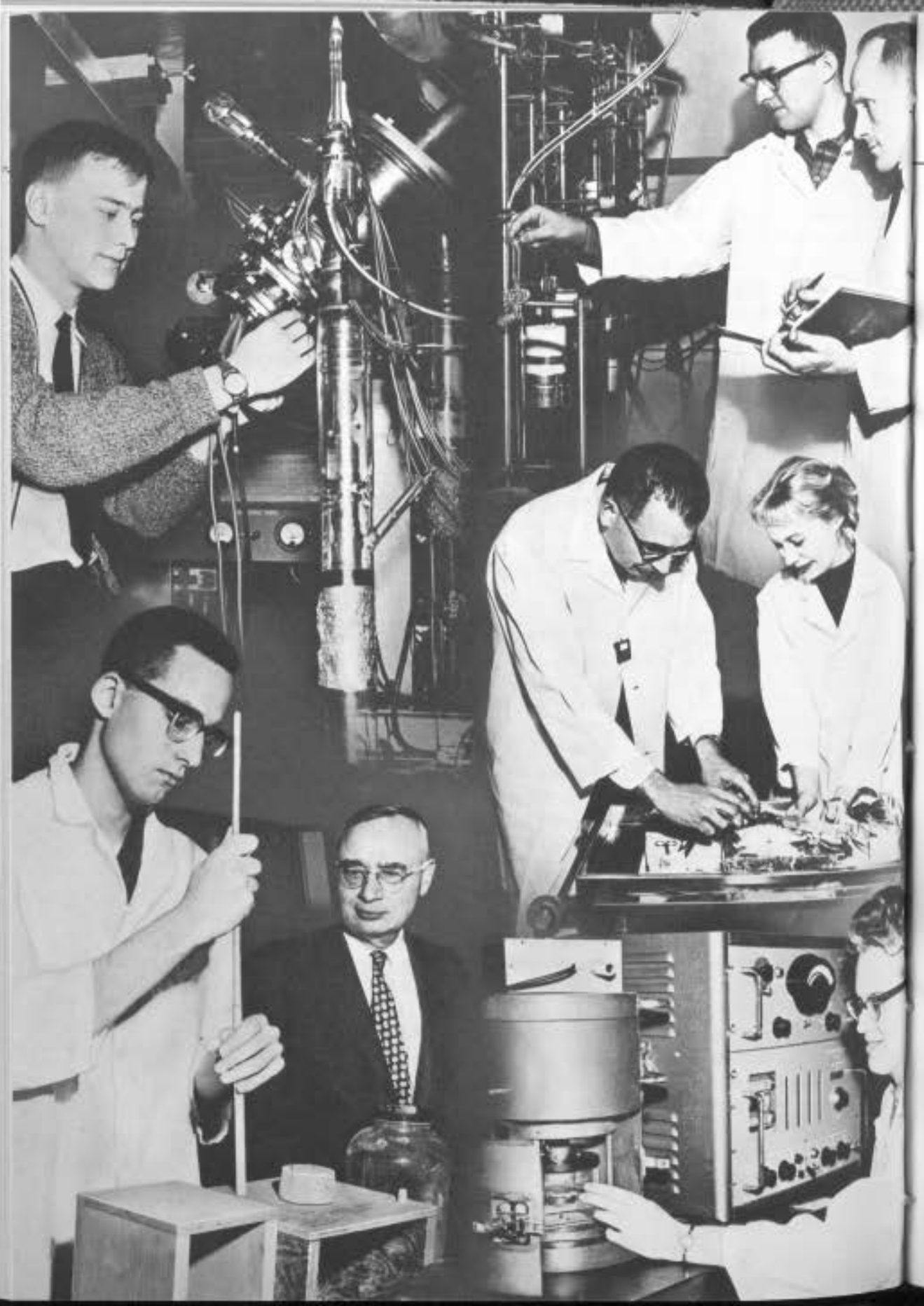
Outstanding teachers of various specialties at the secondary level were selected during 1960 to prepare course materials for this project at a center at Purdue University. These materials were subsequently recorded, and it is anticipated that, beginning in September 1961, the organization will telecast recorded material for a full academic year. Plans call for transmission from aircraft for a period of six hours each day, four days per week. The primary objective is to make it possible for schools to secure, through the medium of television, courses for students prepared and presented by experts, thereby improving the quality of instruction. At the same time, if the experiment succeeds, a very considerable saving will be made because the same courses can be used in many institutions.

The Foundation's grant of $100,000 to assist this extensive experimental project in airborne educational television was made in August 1960 to the Purdue Research Foundation at Lafayette, Indiana.

PROJECTS AT THE COLLEGE AND UNIVERSITY LEVEL

Harvard Chemistry Curriculum. The remaining grants in aid of education have been at the college and university level. A few have been of an experimental nature to assist in the development of new curricula. Others have been made for special capital purposes.

Among the more unusual ones is a grant made in December 1960 to Harvard University to permit the Chemistry Department at that institution to experiment with a program in freshman chemistry. Taking cognizance of the somewhat more extensive and sophisticated work now being done at the high-school level, Harvard plans to organize a chemistry course for selected freshmen which will avoid duplication of work previously done, expand the general chemistry course to include more advanced work in analytic, organic, and physical chemistry, and provide for better integration of course material in the introductory chemistry course. To assist in developing the syllabus and text material and to supplement budgetary funds for the experimental



course's special instructional requirements, the Foundation made a grant to Harvard University in the amount of $46,000 in December 1960.

Associated Colleges of the Midwest, Argonne Semester Program. Another special program at the college level to which the Foundation has contributed recently is a combined scientific, educational, and research project carried on at the Argonne National Laboratory near Chicago by the Associated Colleges of the Midwest, an association of ten middlewestern liberal arts colleges. The Foundation made a grant of $10,000 toward the total budget of the enterprise. The Argonne Semester Program is designed to give students and faculty of these liberal arts colleges firsthand experience with the personnel, research, and equipment of one of the most advanced laboratories in the United States. No single college by itself could duplicate these instructional resources. The Program began in the summer of 1960. It will bring to the Argonne Laboratory for an academic semester ten upperclassmen selected from the member colleges. These advanced students are majors in biology, chemistry, and physics. They will participate as assistants in research and at the same time continue their studies under the guidance of three faculty members—a chemist, a biologist, and a physicist—chosen from the Associated Colleges. They will also have the opportunity of studying with specialists on the Laboratory's staff and with visiting scientists and technologists.

The ten colleges that have formed the Associated Colleges of the Midwest are: Knox and Monmouth in Illinois; Coe, Cornell, and Grinnell in Iowa; Carleton and St. Olaf in Minnesota; and Beloit, Lawrence, and Ripon in Wisconsin. The Argonne Project is one of several joint efforts which the new Association has either undertaken or projected. Plans are being considered to develop cooperative seminars in the humanities, in the social and other sciences, and in preparing liberal arts students for teaching careers.

Initial support for the Associated Colleges of the Midwest came from the Ford Foundation, which has made further substantial matching grants. Other support comes from a variety of donors. The Sloan Foundation's grant is intended to provide only partial support for the single project described above. The President of the Associated Colleges is Dr. Blair Stewart, former Dean of Oberlin College. Headquarters are maintained at 20 North Wacker Drive, Chicago 6, Illinois.

♦ *Staff scientists make available advanced scientific equipment of the Argonne National Laboratory, Argonne, Illinois, for cooperative programs of the Associated Colleges of the Midwest.* Photographs by Argonne National Laboratory.

Special Grants to Various Colleges and Universities

BARNARD COLLEGE. In May 1959, the Foundation made a contribution of $5,000 to this institution to assist it in purchasing certain equipment for its science departments. Discretion was given the donee to apply the funds to the equipment needs of its departments in the physical or life sciences.

COLBY COLLEGE. For some time the Foundation has been supplying special scholarship stipends for certain undergraduates at this College in Waterville, Maine. For these special stipends the Foundation gave $2,500 in 1960. This support has now been terminated, Colby having joined the Foundation's National Scholarship Program as a participating institution. In addition, a special developmental grant of $10,000 was made to the College in 1959. Hence the total Foundation contribution to Colby during the biennium was $12,500.

COLGATE UNIVERSITY. Some years ago the Foundation undertook to assist this institution in testing a proposed special faculty incentive program. Under the plan Colgate used special funds to provide occasional salary supplements for its staff and to finance special faculty research projects. The Foundation agreed to make a limited contribution toward this experimental program, and the last installment of its commitment, amounting to $10,000, was made in January 1959.

DAVIDSON COLLEGE. The Foundation was informed in November 1959 that this institution in Davidson, North Carolina, had already secured approximately $1 million from various donors and its alumni for the expansion of its science facilities, including the construction of a new science wing. Equipment needs of the new science wing had, however, not been fully met, and the Foundation contributed $10,000 at the end of 1959 toward the total required to purchase the needed equipment.

GRINNELL COLLEGE. In 1952 Grinnell completed a modern science laboratory, having made an investment of more than $1 million. To exploit the new facilities and provide for the needs of a growing number of students majoring in the physical sciences, the College has sought to increase its faculty, improve opportunities for research, and supply research equipment.

Temporarily this has placed an unusual burden upon the College's operating budget, and the Foundation made a contribution of $10,000 to be applied at the discretion of the College to the operating needs of its science departments.

HARDING COLLEGE. The Foundation made a grant to this institution in Searcy, Arkansas, in September 1959 in the amount of $10,000 to supplement other funds which it had secured to finance the construction of a men's dormitory, the students using the dormitory being chiefly enrolled in the College's School of Bible and Religion.

KNOX COLLEGE. For several years the Foundation made grants to this College to permit it to provide special stipends for certain of its undergraduates who had shown particular aptitude in mathematics and the physical and life sciences. Recently the College became a participating institution in the Foundation's National Scholarship Program. A grant of $10,000 was made in May 1959 in the way of terminal support for the special scholarship stipends which the Foundation had been supporting prior to the time Knox became associated with the Foundation's regular scholarship project.

LOVANIUM UNIVERSITY. This major private University, located in Leopoldville in the Congo, was established in 1954 under the patronage of the parent University in Louvain, Belgium. The head of the University is a Princeton-trained physicist, Monsignor Luc Gillon. During 1959 the Belgian Government agreed to provide approximately four-fifths of the capital sum of $1 million required to complete the engineering quadrangle which had been projected when the institution was established, on condition that the remaining one-fifth of the required sum be secured from private sources. Although the Foundation does not normally make grants outside the United States, the unusual nature of the request submitted by the University and the very serious need for such a facility in the heart of Africa persuaded the Trustees to make an exception. Accordingly, in November 1959, the Foundation contributed $25,000 toward the cost of Lovanium's engineering center.

HARVEY MUDD COLLEGE. Under the leadership of Mr. Henry Mudd, Chairman of its Board of Trustees, and Dr. Joseph Platt, its President, this newest member of the Associated Colleges at Claremont, California, has moved forward rapidly in establishing itself as an undergraduate engineering center. As a gesture of confidence in its leadership and the future of the institution,

the Foundation in June 1959 made a grant of $10,000 which the College was authorized to use for whichever of its needs seemed the most urgent. The College opened its doors to students for the first time in 1957 and has already become an institution of recognized excellence.

SHIMER COLLEGE. This Illinois institution, in existence for more than a century, changed its status in 1950 from a junior college for girls to a four-year senior coeducational institution. The Foundation made a grant of $5,000 in 1959 to assist the College in meeting some of the unusual costs entailed by the final stages of this transition.

TUFTS UNIVERSITY. In April 1960, a grant of $10,000 was made to this institution to assist it in purchasing certain specialized equipment for the building which has recently been erected for its College of Engineering. Although no specific limitation was placed on the grant thus made, it was understood that most of the proceeds would be applied to the purchase of some 20 pieces of equipment required for the photo-elasticity laboratory which has been set up within the new structure.

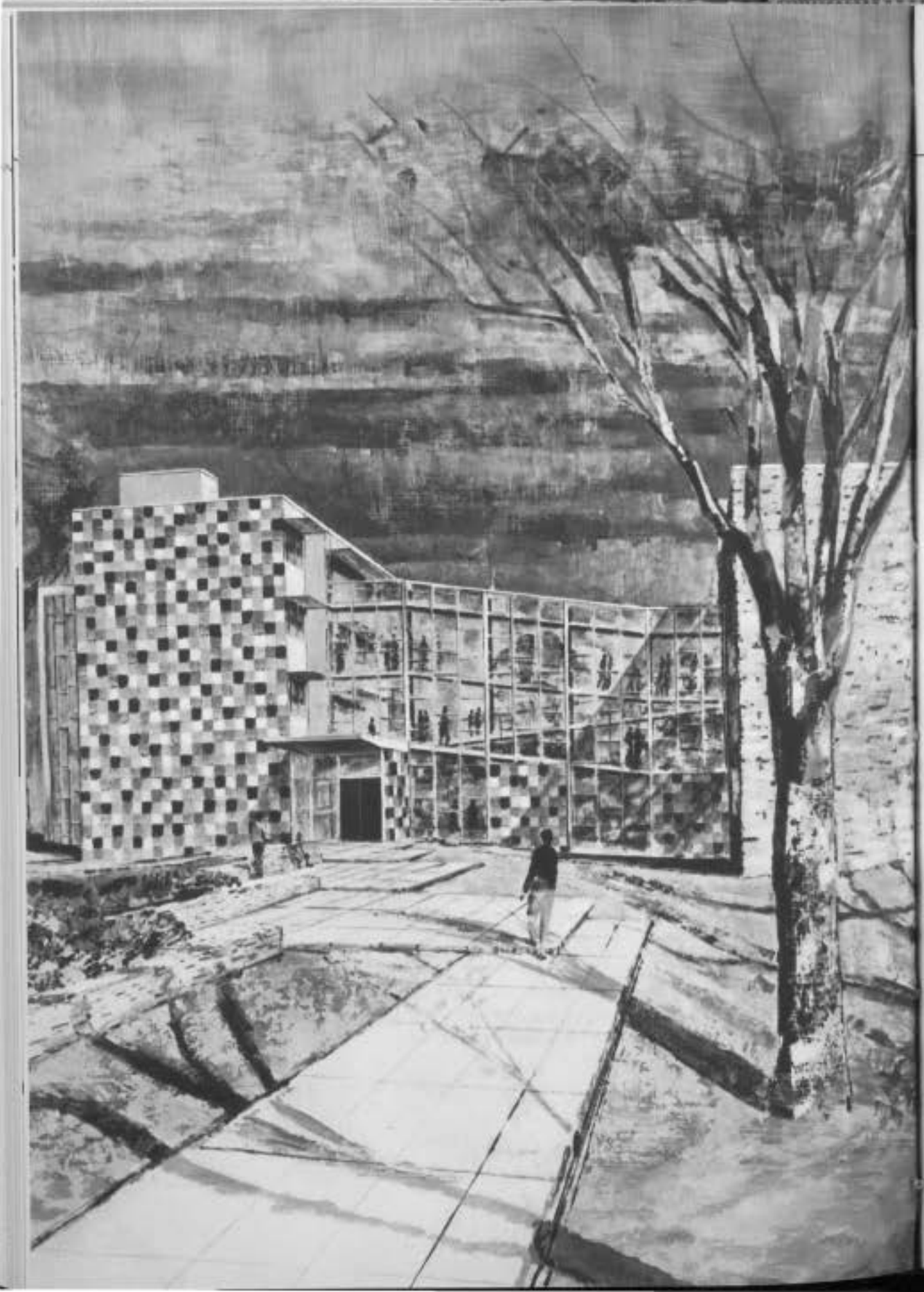
Capital Grants to Educational and Research Institutions

AS A GENERAL RULE, the Foundation makes no grants of a capital nature. Occasionally, however, its Trustees have authorized exceptions to this rule. Normally, the purpose of the exceptions is to provide housing and equipment for some research or educational project of major scope which the Foundation is itself supporting. On certain other occasions, the Foundation's Trustees have made capital grants of some magnitude in order to encourage a research or educational development at some particular institution which gives promise of exerting a constructive influence beyond the confines of the institution itself. The capital funds thus invested are regarded by the Foundation as a means of augmenting the total impact of a particular institution's research or educational leadership.

SLOAN INSTITUTE OF HOSPITAL ADMINISTRATION–CORNELL UNIVERSITY

An illustration of the first of the two kinds of exceptional grants mentioned above is provided by a contribution of $400,000 made in July 1960 toward the cost of constructing new quarters for Cornell University's Graduate School of Business and Public Administration. The contribution was made because the new quarters will also house the Sloan Institute of Hospital Administration, which was established at Cornell with a Foundation grant some six years ago. Reference to this Institute and additional grants for its support are to be found elsewhere in this *Report*.[1]

[1] See pages 124 and 125.



Although enjoying a certain degree of autonomy in its research and educational programs, the Sloan Institute of Hospital Administration has been rather closely identified with the Graduate School of Business and Public Administration. Therefore, when the University undertook to secure funds for the construction of a new building to house the School and the affiliated Institute, the Foundation decided to make a capital commitment, the magnitude of which would bear a reasonable relationship to the amount of space which the Institute would require. The funds of the Foundation will finance an appropriate share of classroom, laboratory, and administrative space in a special wing of the proposed new building. The University authorities have announced that they have secured other gifts and donations totaling approximately $1.5 million, a sum adequate to finance the projected building, and construction is scheduled to commence in 1961.

LABORATORY OF MATHEMATICS AND PHYSICS– CALIFORNIA INSTITUTE OF TECHNOLOGY

An illustration of the second type of special capital grant sometimes made by the Foundation is provided by one made in October 1958 to the California Institute of Technology. The purpose of this grant, totaling $1,165,700, was to assist in building and modernizing an existing structure on the Institute's campus which will provide additional space for research and instructional programs in physics and mathematics. Basement and sub-basement areas of this renovated building will accommodate a new 12-million-volt electrostatic accelerator, which the Office of Naval Research has provided, as well as other equipment which the Institute intends to use in expanding an existing research program on the nuclear behavior of certain light elements. Also to be housed in the new building is a low-temperature laboratory where the Institute will continue its important research program in cryogenics, or low-temperature physics. Finally, the building is to provide administrative, instructional, and research space for the Department of Mathematics.

The reconstructed building, to be known as the Alfred P. Sloan Laboratory of Mathematics and Physics, and the new 12-million-volt accelerator were both dedicated on December 1, 1960. Mr. Alfred P. Sloan, Jr. repre-

Painting of the new Albert Bradley Mathematics Center at Dartmouth College, left; ramps and lecture hall connecting with the proposed psychology unit, right. A description of the project appears on pages 54 and 55. Artist, Richard Wagner. Architects, E. M. and M. K. Hunter.

sented the Foundation at the exercises, and Rear Admiral Rawson Bennett II, Chief of Naval Research, represented the Navy Department.

In October 1959 the Foundation made a supplementary grant of $100,000 for this capital project, thus bringing the Foundation's total contribution to $1,265,700.

ALBERT BRADLEY MATHEMATICS CENTER—DARTMOUTH COLLEGE

A capital grant with a motivation similar to the one just discussed was a gift of $500,000, made by the Foundation's Trustees to Dartmouth College in February 1959, to establish the Albert Bradley Mathematics Center. In making it, the Foundation's Trustees sought to honor their Chairman, Mr. Albert Bradley, who for many years had served as a major General Motors executive and ultimately as Chairman of the Board of General Motors in succession to Mr. Sloan. Mr. Bradley is a graduate of Dartmouth and has recently served on the College's Board of Trustees. He has taken a great interest in the development of mathematical research and instruction at his

Chairman of the Foundation, for whom the new Mathematics Center at Dartmouth has been named. See page 52.
Photograph by Fabian Bachrach

ALBERT BRADLEY

Alma Mater and has also made a sizable personal gift toward the financing of the Mathematics Center.

In honoring their colleague, the Trustees of the Foundation sought to express their approval of the unusual progress in the various mathematical disciplines at Dartmouth recently and their desire to assist Dartmouth in capitalizing these developments. More than a decade ago, the College undertook to expand its scientific and mathematical offerings and, in the intervening years, it has given these disciplines a position of excellence in its general curriculum. Dartmouth's Department of Mathematics was especially strengthened when the College brought to that department an unusually able group of mathematical scholars headed by Professor John G. Kemeny. Dartmouth has also made considerable progress in modernizing the materials of instruction for undergraduates in mathematics and in applying mathematical disciplines, especially statistics and quantitative measurements, to the social sciences. It was developments such as these that especially attracted the interest of the Foundation's Trustees.

According to President John S. Dickey of Dartmouth, the new Albert Bradley Mathematics Center will be incorporated in a classroom building being constructed during 1961. The funds contributed by the Foundation and Mr. Bradley will finance equipment for the Center and provide an appropriate contribution toward the capital cost of the classroom structure. Present plans call for the dedication of the new structure and the Center in the fall of 1961.

CASE INSTITUTE OF TECHNOLOGY

Another grant of an essentially capital or developmental nature, in the amount of $100,000, was approved by the Trustees in March 1960 to assist the Case Institute of Technology, Cleveland, Ohio, to develop its Department of Management.

In recent years Case has enlarged considerably its advanced degree work in economics and the behavioral sciences, a degree program in the latter having been inaugurated in September 1960. According to Dr. John A. Hrones, Vice President for Academic Affairs, the proceeds of the Foundation's grant have been used by the Institute to expand its instructional and

research program in the broad area of management under the leadership of Professor Vernon C. Mickelson, Head of the Department of Management. Case identifies the context of the field of management as the behavioral sciences, general economics, and operations research.

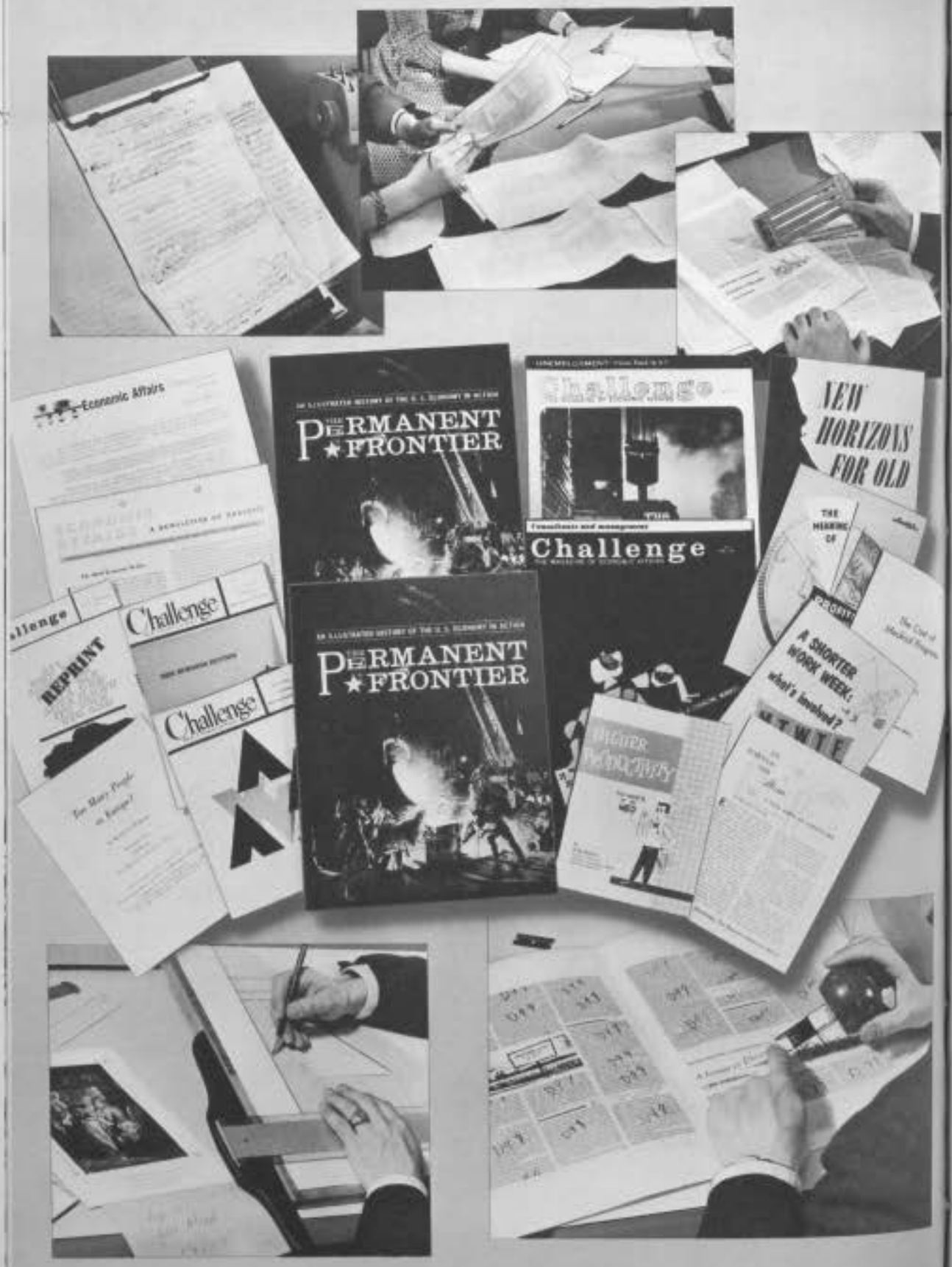
CENTER FOR ADVANCED STUDY—THE BROOKINGS INSTITUTION

For many years the Foundation has made grants to The Brookings Institution to support various research and other projects in economics. Brookings was chartered in 1927 as a research institution. Its original headquarters were in a building on Jackson Place in Washington, D. C. In 1959 construction was begun on a new building for the Institution in Washington, at 1775 Massachusetts Avenue. This building, to be called The Brookings Institution Center for Advanced Study, was dedicated in November 1960. Early in that year the Foundation made a contribution of $100,000 toward the construction of the new Center. The total cost of the structure approached $4 million.

COLUMBIA-PRESBYTERIAN MEDICAL CENTER

Still another special grant was made by the Foundation early in 1960 to assist Columbia-Presbyterian Medical Center in its current effort to expand its plant and facilities. The grant, totaling $500,000, was unrestricted, although some of the proceeds may be applied to the Center's medical research program. The Foundation's contribution was made in recognition of the significance of Columbia-Presbyterian as one of the country's leading medical research centers.

Popular Education and Public-Service Projects



Institute of Economic Affairs— New York University

DURING THE BIENNIUM the Foundation continued its support of a project of major scope at New York University which creates educational materials in economics and other social sciences. The project operates within the University under the Institute of Economic Affairs, which has the broad aim of improving and expanding public understanding of contemporary economic and related problems. Support for the Institute was originally undertaken by the Foundation in 1950. In the ensuing decade the Institute has become a major producer of educational materials in economics and one of the nation's chief agencies for channeling the product of economic and related research into printed media of a semi-popular type. Its materials are of value especially to teachers, students, and the informed layman. The activities of the Institute reflect the early interest of the Foundation in "economic education" and the popular dissemination of information about the American economy.

Under a staff headed by Mr. Haig Babian, the Institute produces a variety of materials in the general area in which it specializes. Its most important project is a 48-page periodical called *Challenge Magazine,* issued ten times per year. The periodical has a paid circulation approximating 20,000. It features articles on international and domestic business, industrial management, and consumer economics, written by professional economists and journalists with broad experience in interpreting economic and social issues. Occasionally *Challenge Magazine* introduces other articles relating to

♦ *Montage of various publications of the Institute of Economic Affairs at New York University, including typical activities involved in editing and producing them.* Photographs by A. F. Sozio.

the interpretation of scientific and technological developments, particularly as these may affect industry, labor, and the consumer; and also articles relating to education in the social sciences and the cultural impact of technology. A feature of each issue is an interview with a leading authority in some intellectual discipline. During 1960 the interviews related to the following topics among others: the uses and rewards of mathematics; economic growth; economic development in Puerto Rico; and the industrial impact of automation.

Courses in economics at various colleges and universities in the United States use *Challenge Magazine* for supplementary reading. Certain industries also use it in management training programs. The magazine's usefulness is considerably enhanced because so many of the articles are reprinted in whole or in part by newspapers, magazines, and business publications. During the two-year period under review, it is estimated such reprints amounted to more than eight million items. In addition, the magazine itself reprints many of its articles in quantity.

Recently the Institute of Economic Affairs has developed a sizable distribution of its materials outside of the United States. An important step in this direction was taken some three years ago under a contract with the United States Information Agency. This provided for the purchase by the Agency of an international edition of *Challenge Magazine* for distribution by the United States Information Service units throughout the world. The international edition normally embraces articles which have appeared in the domestic edition, although occasionally new material is added. Additional impact abroad is secured through the reprint of *Challenge Magazine* articles by economic journals published outside the United States. Either the English or a translated version of these articles have recently been published by standard economic periodicals in Germany, Australia, the United Kingdom, India, Sweden, and Yugoslavia.

Still a third Institute effort to produce appropriate printed material in economics for the public takes the form of special booklets for so-called "information racks" in industrial establishments. The volume of such booklets varies from year to year. About a half million were produced in the past two years on the subject of higher productivity, and copies were purchased and distributed by some 34 industrial concerns.

One of the latest efforts of the Institute to produce material of interest to the informed reader has taken the form of a book entitled *The Permanent Frontier*. This 120-page volume provides a popular description of the evolution of the American economic system during the past century and a half. The book is profusely illustrated, some of the illustrations being in color. It is designed for use in the schools, particularly at the secondary level, and seeks to fill the need for a supplementary volume on the evolution of American economic society in standard courses in American history and social studies. A sizable number of copies of *The Permanent Frontier* will also be distributed outside the United States by the United States Information Agency. Manuscript for *The Permanent Frontier* was prepared during 1960, and publication was scheduled for February 1961.

The operations of the Institute of Economic Affairs recently underwent appraisal by Dr. Edwin G. Nourse, well-known economist and former head of the President's Council of Economic Advisers. In his report Dr. Nourse stresses the usefulness of the materials produced by this enterprise in disseminating objective economic information in the United States. Dr. Nourse emphasizes especially the value of such materials in interpreting and disseminating in our secondary schools and colleges the product of current economic and other social science research. In other portions of this *Report*, the Foundation has indicated its growing interest in improving communication between the researcher and the informed layman in various scientific fields. It believes that this problem is quite as acute in the field of economics and considers this project at New York University a major effort to improve such communication.

The Foundation's subsidy to the Institute of Economic Affairs has, during the biennium, averaged $140,000 per annum. These grants are supplemented by the subscription and other income of the project itself in order to support an annual operating budget that is well over $200,000. New York University maintains supervision over the project through a policy board of which Dr. Harold O. Voorhis, its Vice President and Secretary, is Chairman. Other members include: Dr. Arthur L. Brandon, Vice President for University Relations; and Dr. Richard A. Girard, Professor of Economics.

Public Service Awards Projects

AUTOMOTIVE SAFETY AWARDS—AUTOMOTIVE SAFETY FOUNDATION AND NATIONAL SAFETY COUNCIL

THE FOUNDATION HAS CONTINUED its support of a project originally undertaken in 1948 to recognize the public-service efforts of the radio and television industry and of the various advertising media in promoting pedestrian safety and safety on the highways. Awards are made annually to individual radio and television stations, to networks, and to advertisers which have been singled out by a special board of judges for having produced during the course of a year programs of special merit, that is, programs which appear to the judges to have been especially effective in making the motorist and pedestrian more conscious of traffic dangers and more aware of the importance of the measures designed to protect person and property against highway hazards. The award takes the form of a bronze plaque and a citation and is officially known as the "Alfred P. Sloan Radio-TV Award for Highway Safety." The plaque itself, redesigned in 1955, is the creation of the sculptor, Anthony de Francisci. Administration of the project is confided to the Automotive Safety Foundation of Washington, D. C. and the National Safety Council. Annual grants for the project average $16,000.

Under the rules which the two administering organizations have developed for this project, an award may be made annually for a sustaining program and another award for a commercial program in each of the following six categories: (1) national radio networks; (2) television networks; (3) radio stations with a power of 1,000 watts or less; (4) all other radio stations; (5) regional radio networks and group-owned stations; and (6)

Montage of ceremonies at the Alfred P. Sloan Radio-TV Awards for Highway Safety, 1959-1960, Waldorf-Astoria Hotel, New York. Photographs by Raymond K. Martin.

individual television stations. In addition, an award may be made for a sustaining program on regional television networks or group-owned television stations, and awards are also made to individual radio or television stations operated under noncommercial or educational auspices. In 1960, moreover, the Foundation liberalized the terms of its grant and made it possible to provide prizes for writers who produced either sustaining or sponsored programs which, in the opinion of the judges, had special merit in promoting highway safety. These special awards to writers will be made for the first time in 1961 if programs meeting the standards of the judges are submitted for consideration.

All radio and television winners of the annual "Public Interest Awards" made by the National Safety Council in its traffic-accident prevention program are automatically eligible for consideration by the judges in the competition for the Sloan Awards. All other programs entered in the competition must be specially nominated for consideration by the judges, and the nomination must be accompanied by various kinds of supporting material. The latter includes sample transcriptions, kinescopes, and scripts of broadcasts or telecasts or of relevant announcements. Information must also be given to identify the scope and variety of the effort made by the particular program in its support of pedestrian and highway safety.

Normally, nominations are made during the months of December and January, the closing date for any particular year usually being February 1st. Appropriate blanks for making such nominations are available from the National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois. All nominations and supporting material must be sent to that address. The board of judges, which consists of distinguished laymen and traffic experts, selects the winners from the various nominations during the spring, and the awards themselves are subsequently presented at a dinner in New York City, held usually in May, which is attended by distinguished representatives of the broadcasting and advertising industries and of the educational world.

According to information furnished the Sloan Foundation by the Automotive Safety Foundation, some 275 nominations were submitted for consideration by the judges in 1960. This total represents a sizable increase over previous years and provides an indication of the interest being manifested by broadcasters and advertisers to promote pedestrian and automotive

safety. In recent years the board of judges making the awards has been headed by the Hon. Howard Pyle, former Governor of Arizona, who is now President of the National Safety Council. Other judges who have served with him on the awards board included: Dr. Kenneth G. Bartlett, Vice President and Dean of Public Affairs, Syracuse University; Mrs. Stephen J. Nicholas, Executive Director, General Federation of Women's Clubs; Mr. Ellis L. Armstrong, Commissioner, United States Bureau of Public Roads; Mr. Frederick H. Garrigus, Manager of Organizational Services, National Association of Broadcasters; and Mr. J. W. Bethea, Executive Secretary, President's Committee for Traffic Safety.

During 1959-60 awards for sustaining programs were given to the following individual radio and television stations: WICC, Fairfield, Conn.; KNUZ, Houston, Tex.; WAVZ, New Haven, Conn.; KDKA-TV, Pittsburgh, Pa.; WJRT, Flint, Mich.; and KWTV, Oklahoma City, Okla. WGN, Chicago, Ill., received an award both in 1959 and 1960. Awards for non-commercial stations were given to: KLON-(FM), Long Beach, Cal.; WMVS-TV, Milwaukee, Wis.; and KDPS-(FM), Des Moines, Iowa. During 1959 the judges made two special awards for sustaining programs, one to the Triangle Radio-TV regional network of stations in the northeastern part of the United States, and one to the Canadian Broadcasting Corporation. The special award to the Triangle group was given for a major effort made by its stations to promote safe-driving pledges from listeners and viewers, and for its promotion of a high-school essay contest on highway safety. The Canadian Broadcasting Corporation was given the special citation because of a series of unusual safety programs developed over its three radio networks and its television network.

For commercially sponsored programs in support of highway safety, awards were given to the following concerns: First National Bank, Lake City, Fla., for a program on Station WGRO; Hoseth Auto-Electric Company, Rapid City, S. D., for a program on Station KOTA; Schneider Oil Company, Salem, Va., for a program on Station WBLU; Allis-Chalmers Manufacturing Company, Milwaukee, Wis., for a program on Station WTMJ; and the H. H. Meyer Packing Company, Cincinnati, Ohio, for a television program on Station WLWT. The latter station received two awards.

Other advertisers cited by this safety project for regional and national network programs on radio and television included the following: the MFA

Mutual Insurance Company (regional network of independent stations); the Metropolitan Life Insurance Company (national network of independent stations); the General Motors Corporation (NBC television network); the Standard Oil Company of Indiana (regional network of independent stations); Esso Standard Division of the Humble Oil and Refining Company (national network of independent stations) ; and the R. J. Reynolds Tobacco Company (NBC, CBS, and ABC television networks).

In his address at the annual awards dinner for this project, held at the Waldorf-Astoria Hotel in New York City on May 12, 1959, Mr. Stanley C. Hope, Chairman of the Board of the Automotive Safety Foundation, saluted the broadcasting industry for its fine public service in support of highway safety. Its contribution to the concerted efforts being made to promote safety on the streets and highways had, he pointed out, "pretty well demolished the theory that a soaring death toll is the inevitable price we must pay for the growth of our automotive economy." Mr. Hope reminded his audience that in 1958 there were 68 million cars, trucks, and buses on the nation's highways and streets, this being exactly twice the number of vehicles which were in operation in 1941. Yet the number of fatalities in 1958 was nearly 3,000 less than in 1941, and on a mileage basis the 1958 motor-vehicle fatality rate was less than half the 1948 rate. While emphasizing the necessity of a continued cooperative effort on the part of all those concerned with highway safety, Mr. Hope assured the broadcasting industry and all others associated with this awards project that they had reason for great satisfaction in the contribution they had made toward the reduction of the accident and fatality toll.

The sudden death of Mr. Harold E. Fellows, President and Chairman of the Board of the National Association of Radio and Television Broadcasters, on March 8, 1960, was a great blow to this project. Mr. Fellows had addressed the annual awards ceremonies on numerous occasions during the past decade. On all these occasions he exhibited his great interest in alerting the communications industry to its responsibility for various public-service programs, including this one, and he had always been most complimentary to the industry for its response. The past success of this project owes much to the wisdom and guidance of Mr. Fellows, and he will be greatly missed.

CAREER SERVICE AWARDS—NATIONAL CIVIL SERVICE LEAGUE

Grants were continued to the National Civil Service League for its Career

Service Awards Program. These awards are made annually for outstanding performance in the Federal Civil Service. The Foundation's two-year contribution of $20,000 has been used primarily to defray administrative costs and expenses incurred by the annual ceremonies in Washington during which these awards are presented.

Ten awards were made in 1960. A similar number were made the previous year. Among the twenty professional civil servants who were thus honored, nine were serving in regular cabinet departments of the Government. The others came from the following agencies: Veterans Administration, Central Intelligence Agency, National Aeronautics and Space Administration, U. S. Atomic Energy Commission, the International Cooperation Administration, the Bureau of the Budget, and the Executive Office of the President. The positions held by the award winners cover a broad range of government activities. Seven are scientists; five are general administrators; one is a field administrator; and one is a conservationist. Others are engaged in financial and personnel management and governmental intelligence.

The annual Awards Program was initiated in 1955. The stated purpose of the program is "to strengthen the public service by bringing national recognition to significant careers in the Federal service." In presenting the awards, a League spokesman declared that those honored have exemplified by their efficiency, achievement, character, and service those qualities most desired in a dedicated public servant.

Heads of governmental departments and agencies are invited by the League each year to nominate candidates for Career Service Awards. Government employees in all grades and occupations, whether in departmental, field, or overseas service, are eligible. A requirement for consideration is that "nominees must be employed in one of the career services of the Federal Government" or they must be identified by their records "as career employees who are making government service their life work." No more than three nominations may be made by any one agency. Nominations are submitted directly to the National Civil Service League. A special committee appointed by the officers and Board of Directors of the League serve as judges.

The League was organized in 1881 as a non-partisan citizens' group. Its formation marked that period in American governmental history when

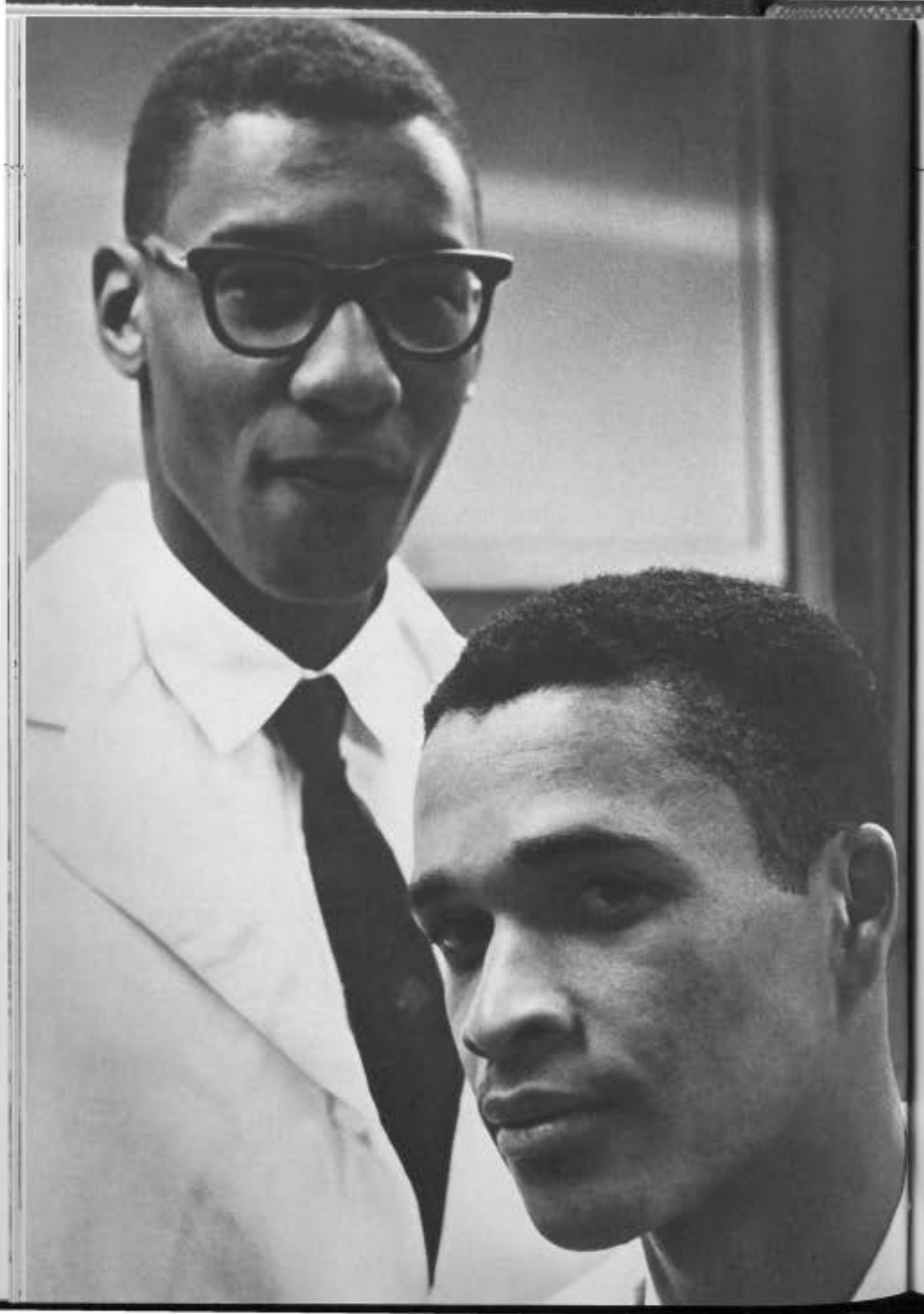
serious efforts were made for the first time to substitute the merit system for the spoils system.

Eminent citizens have served in positions of leadership in the League. Among those most influential in the conduct of the League's affairs in its early years was George W. Curtis, noted educator, who had been appointed by President Grant in 1871 to a commission to draw up rules for the regulation of the Civil Service. Mr. Curtis served as the League's first president. He was succeeded by Carl Schurz, well-known author and educator, who had also been prominently identified with the Civil Service reform movement. Four presidents of the United States, Grover Cleveland, Woodrow Wilson, Theodore Roosevelt, and William Howard Taft, served as vice presidents of the League.

Throughout its long history the League has been a consistent supporter of the improvement of the public service. At one time or another it has advocated studies of the Federal retirement system, investigation of the veterans' preference laws, various revisions and modifications of Civil Service regulations, and many changes in existing rules designed to improve the efficiency of the public service and raise the professional level of its personnel.

For many years the League has engaged in educational work. It conducts research studies and publishes and distributes reports and booklets on various phases of public personnel administration. Its official bulletin, "Good Government," is issued monthly. The League maintains a library of published and unpublished materials on public service administration. Its broadly stated aim continues to be the improvement of the public service through better personnel at all governmental levels—national, state, and local. President of the League is Mr. Nicholas Kelley of the New York law firm of Kelley, Drye, Newhall & Maginnes. Its Executive Director is Mr. James R. Watson. The League's offices are located at 315 Fifth Avenue, New York 16, N. Y.

Fellowship Programs for Professional Development



National Medical Fellowships, Inc.

About two years ago the Foundation became concerned with what appeared to be a relative lack of support for exceptionally qualified Negro students planning a medical career. For advice on this problem it turned to various authorities, including Dr. Franklin C. McLean, Professor of Physiology, Emeritus at the University of Chicago; Dr. Peter Marshall Murray, former member of the Board of Trustees, State University of New York; Mrs. Hilde Reitzes, Executive Secretary of National Medical Fellowships, Inc., and her husband Dr. Dietrich C. Reitzes, author of the volume *Negroes and Medicine*. All of the individuals consulted, and particularly Dr. McLean, have had a great deal of experience in trying to improve opportunities for Negro students who wish to enter the medical profession.

After lengthy investigation, the Foundation decided to make an initial and essentially experimental grant of $60,000 to National Medical Fellowships, Inc. to develop and administer a pilot scholarship project for selected Negro candidates for medical school. National Medical Fellowships, Inc., is a non-profit corporation in Chicago, that assists qualified Negro students to secure a medical education and strives to better professional conditions for Negro physicians. The first "National Medical-Sloan Foundation Scholarships" were awarded to ten outstanding students who entered medical school in the fall of 1960.

National Medical Followships, Inc. has sought to direct the awards to students who have been accepted in non-segregated medical schools. The scholarships, which are tailored to meet the candidate's economic needs,

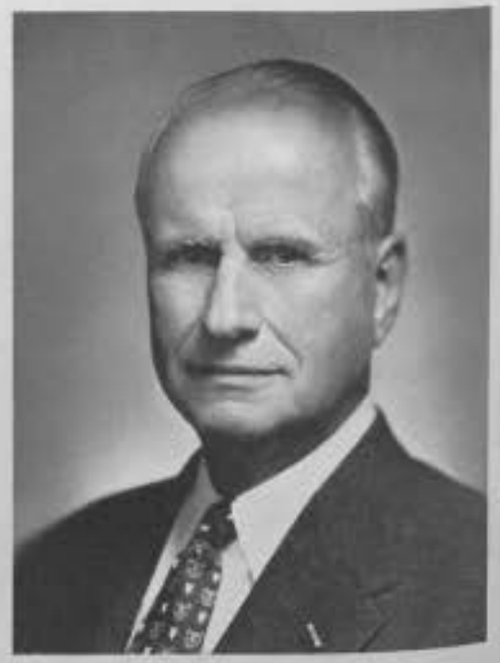
Clarence Woods, upper left, and Lloyd N. Henry, lower right, two of the original group of ten college students who received National Medical-Sloan Foundation Scholarships. Mr. Woods is studying at the Northwestern University Medical School and Mr. Henry, at the University of Chicago Medical School. Photograph courtesy of *Ebony Magazine*, Johnson Publishing Company.

range from a minimum level of $600 to a maximum of $2,200 per annum and are tenable for four years. Grants are made only to male students who have excellent scholastic records and who have scored well in the Medical College Aptitude Tests. Scores of the first group of winning candidates ranged from 500 to 617.

In accepting responsibility for administering this pilot grant, Dr. McLean, who serves as Secretary and Treasurer of National Medical Fellowships, Inc., observed that ideally Negro health needs should not be met exclusively by Negro doctors. At the same time, he made it clear that the quality of care provided for the Negro population of the United States is nevertheless related to the number and quality of Negro doctors. Dr. McLean further observed that of the approximately 252,000 physicians in the United States only about 4,000 are Negro physicians; hence, though the general ratio in the nation is one physician to 711 people, the ratio of Negro physicians to the non-white

Dr. Peter Marshall Murray, former member of the Board of Trustees, State University of New York, is President of National Medical Fellowships, Inc., left. Photograph by Conway Studios Corporation. *Dr. Franklin C. McLean, Professor of Physiology, Emeritus, University of Chicago, is Secretary and Treasurer of National Medical Fellowships, Inc., right.* Photograph by Fabian Bachrach.

DR. PETER MARSHALL MURRAY



DR. FRANKLIN C. MCLEAN

population is one to 4,900. The Foundation was concerned by the implications of these ratios and is seeking to expand the total pool of qualified Negro candidates for medical education. It believes that the motivation provided by these scholarships may assist in attracting more qualified Negro candidates to medicine.

Of the ten students selected for the first group of scholarships awarded, two are attending the State University in New York. The other eight have enrolled in medical schools in the following universities: Pittsburgh, Rochester, Howard, Chicago, Harvard, Albert Einstein, Kentucky, Northwestern.

In May 1960, the Foundation's Trustees approved another grant of $60,000 to provide four-year scholarships for a second group of ten candidates to enter medical school in the Fall of 1961. As in the case of the initial grant, $50,000 of the proceeds provides stipends; the remaining $10,000 is used to defray the expenses of selection and for certain other administrative costs.

DILLARD UNIVERSITY

A related activity, financed by the Foundation, is concerned with the improvement of counseling and guidance services for premedical students in the Negro colleges of the South. Acting on the suggestion of Dr. A. W. Dent, President of Dillard University in Louisiana, the Foundation supplied a grant of $7,500 to finance a conference, during the summer of 1960, of the college presidents and guidance counselors of predominantly Negro institutions in the United States. Participants in the workshop of this conference also included teachers from various departments of the colleges represented. The immediate purpose was to exchange information as to procedures observed in the various institutions in guiding and motivating students who might become qualified candidates for medical school. The findings of this conference were subsequently reproduced in mimeographed form in June 1960 and may be secured from Mr. Edward E. Riley, Jr. of Dillard University, who directed the workshop.

Other Fellowship and Scholarship Projects

EXPERIMENTAL ENGINEERING PROGRAM

AMONG OTHER FELLOWSHIP PROJECTS of the Foundation, developed during the biennium under review, is one designed to encourage the development of teachers of engineering disciplines. The project was undertaken, on an experimental basis, to determine whether fairly generous stipends, available during the first year of graduate study in leading engineering institutions, might attract a larger number of students of ability who subsequently might take up the teaching of their specialty. Indeed the principal reason for this experimental program, as far as the Foundation is concerned, was information it had received from engineering educators and other specialists that there was a distinct shortage of qualified candidates for teaching positions in the nation's engineering schools.

The project was inaugurated in 1959. Funds voted by the Foundation's Trustees provided stipends for first-year graduate students in engineering for the academic year 1960-61. Some 35 fellowships were established and distributed among nine universities. These are: Massachusetts Institute of Technology, California Institute of Technology, Stanford University, Cornell University, Columbia University, Purdue University, University of California at Berkeley, University of Michigan, and the University of Illinois. The stipends provide for full tuition. They also include a cost-of-living allowance of $1,800, with other allowances for married students. The university is given a grant-in-aid to take care of certain overhead costs. The project has been continued for a second year, grants approximating $140,000 having been made again toward the end of 1960 for the academic year 1961-62.

The project continues to receive the strong endorsement of educators whom the Foundation has consulted, and administrators of the project, at

Painting of Cornelius Packard Rhoads, M.D., June 20, 1898-August 13, 1959. Artist, Albert Murray. Photographed by Peter Juley & Son. For comment on Dr. Rhoads, see pages 77 and 94.

various universities, have been enthusiastic over the quality of the students to whom the stipends had been awarded.

FELLOWSHIP PROGRAM AT SCHOOL FOR ADVANCED STUDY—MASSACHUSETTS INSTITUTE OF TECHNOLOGY

The Massachusetts Institute of Technology has sought to provide several fairly generous fellowship stipends to be used to invite selected foreign scientists and other scholars to come to Cambridge for a year of work at the Institute. These scholars are selected shortly after having received their doctorate. The desirability of such a fellowship project is predicated upon the assumption that specialists, particularly specialists in a scientific or engineering discipline, must be given opportunities in increasing degree for professional development and to advance personal research interests after the doctorate has been awarded. These fellowships, currently limited to foreign students, are part of the Institute's broad plans for postdoctoral study and research, which are to be institutionalized in its new School for Advanced Study.

Scholars receiving grants in this fellowship program are nominated by appropriate Institute department heads. Recipients of the fellowships have no other obligation than to pursue their research interests and take maximum advantage of the intellectual resources and scientific environment afforded by one of the world's outstanding scientific and technological institutions. Grants from the Foundation for these fellowships have approximated $70,000 per annum. Individual stipends average $7,000, the total in each case varying according to the general economic needs of the scholar and, more particularly, according to the expenditure incurred in coming to the Institute from his home country. The fellowships are known as the Alfred P. Sloan Postdoctoral Fellowships in honor of the President and founder of the Foundation, who is also an alumnus of the Institute.

Seven Fellows were brought to the Institute in 1959 under this program. Their average age is 31 years. They came from the United Kingdom, Poland, Holland, Japan, Israel, and Canada. Their disciplinary fields were chemistry, physics, mathematics, and biophysics. In 1960 the number of Fellows was increased to ten. The countries represented this time were the United Kingdom, Germany, Japan, Yugoslavia, and India. The majority of the group

were scientists and engineers, but three had taken their doctorate in the social sciences or the humanities.

RHOADS MEMORIAL FELLOWSHIP PROGRAM

In 1959 the Trustees of the Sloan-Kettering Institute established the Rhoads Memorial Fellowship Program in memory of Dr. Cornelius P. Rhoads, the Institute's first Director. Many contributions, which had been made to the Institute in Dr. Rhoads' memory, were credited to a special fund which, in due course, will support stipends for fellowships tenable under the program.

As an expression of their own respect for the memory of Dr. Rhoads and in appreciation of the great contribution which he made to cancer research, the Trustees of the Foundation in 1960 made a grant in the amount of $300,000 to this Rhoads Memorial Fellowship Program. The Foundation's grant will be paid at the rate of $100,000 a year. It will supplement other gifts from foundations, industries, and individuals.

More than 100 young men and women were trained at the Sloan-Kettering Institute as cancer research specialists during the period when Dr. Rhoads served as Director. Many of these young men and women came from foreign countries, and several of them subsequently had a large share of the responsibility for establishing cancer research and educational centers in their respective homelands. The Rhoads Memorial Fellowship Program is, in a sense, an expansion of this educational and training activity which Dr. Rhoads directed during his lifetime. Senior scientists who receive support under this program will bear the designation of "Cornelius Packard Rhoads Fellows in Cancer Research."

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Fellowship funds have also been made available to the Woods Hole Oceanographic Institution, the sum of $20,000 having been granted to that institution for this purpose. The Woods Hole center is one of the few major institutions in the United States which provides graduate training in oceanography, a subject which is essentially of an interdisciplinary nature bringing together the methodology and substance of such more basic disciplines as

physics, chemistry, biology, and mathematics. Several years ago the authorities at Woods Hole augmented their fellowship program in oceanography, and the Foundation's grants are in the nature of a contribution to this enlarged enterprise.

PRACTICAL NURSE TRAINEE PROJECT

Some years ago, in response to community demand, the Board of Education of New York City embarked upon an experimental program for the training of practical nurses. Since the State of New York requires that a practical nurse-intern secure training in patient care as a prerequisite for licensing, the new program required the participation of certain hospitals. Several voluntary hospitals in the New York City area subsequently agreed to provide this year of clinical experience.

Although New York City's Board of Education can finance formal instruction that may lead to the appropriate high-school diploma for these nurse candidates, it is not possible, under existing regulations, for the Board to use its funds to finance the patient-care program in the voluntary hospitals. For this reason, the Board turned to certain private foundations, among them the Alfred P. Sloan Foundation, to provide grants for a limited period. This Foundation's grant was $50,000. The chief charge against it will be the salaries of the hospital supervisors of the nurse-intern program. It is also anticipated that some of the funds provided by the Foundation will be used to appraise and assess the value of this project, to determine whether it should be continued in the future and, if it is, how it is to be financed.

In a recent report issued by the City's Cooperative Education Program, it was indicated that between 1956, when the nurse-intern project was inaugurated, and 1960, about 350 trainees qualified for their licenses. Altogether more than 700 have been enrolled in the courses, and current classes in the eleventh and twelfth school years number some 340 students. Observers and administrators of the project are confident that any future appraisal will indicate that an enterprise of this nature can provide an effective contribution toward alleviating the shortage of trained practical nurses in the New York City area.

Scientific and Medical Research and Education

Basic Scientific Research

SCIENCE FELLOWSHIP PROGRAM

EVER SINCE THE CLOSE OF WORLD WAR II, this Foundation has been particularly concerned about the problem of providing support for pure scientific research. This concern was predicated in part on the observation that, in an age when so much of our culture depends upon science and technology, we were giving far too much attention relatively to the technological exploitation of scientific discovery and far too little attention to the basic research upon which the continued advance of our technology depends. In other words, the Foundation shared the opinion of many that the nation was using up scientific capital at a far more rapid rate than it was creating new capital. For military and other reasons, public budgets for research had grown extensively during and immediately after World War II; but the expansion of research appropriations was doing relatively little to mitigate or to solve the problem of promoting basic research in science. Thus in March 1954, President Eisenhower pointed out that as much as 90 per cent of the vast federal budget for research was going into developmental work, that is, into work which was designed to exploit scientific discovery and not work to encourage new scientific discoveries. It was also apparent that many governmental projects that might be identified as pure science research projects had highly specialized objectives, and that they did not provide the degree of freedom and individual choice on the part of the scientists which are necessary to establish an appropriate climate for basic research.

Scenes from the Symposium on Basic Science conducted at The Rockefeller Institute in New York, May 1959, by the Foundation in cooperation with the National Academy of Sciences and the American Association for the Advancement of Science. In the center scene: former President Eisenhower addressing participants at the Symposium Dinner, Waldorf-Astoria Hotel. Center photograph by Edward Clark, courtesy of *Life*, copyright 1959 Time Inc. All other photographs by Kenneth Vanier.

As a result of this concern for the future of scientific research, which had been voiced by several of the Foundation's Trustees, notably General Lucius D. Clay and Mr. Frank A. Howard, as well as by Mr. Sloan, the Foundation appointed a special Study Group of leading scientists to survey the problem and advise the Trustees as to ways in which they might contribute to its solution. As Chairman of this Study Group the Trustees secured the services of Professor Roger Adams, distinguished organic chemist and then the Head of the Department of Chemistry and Chemical Engineering at the University of Illinois. Others who agreed to serve with him were Dr. Mervin J. Kelly, then President of Bell Telephone Laboratories, Inc., and a Foundation Trustee; Dr. Robert W. King, formerly Assistant to the President of Bell Telephone Laboratories, Inc.; Professor W. Albert Noyes, Jr., at the time Dean of the College of Arts and Sciences at the University of Rochester; and Dr. Julius A. Stratton, President of the Massachusetts Institute of Technology.

After a lengthy investigation, the Study Group suggested to the Foundation's Trustees that they might contribute most effectively to this problem of the relative lag in pure scientific research if they could devise a program to improve research opportunities for brilliant young scientists who had already received their doctorate and who had become members of science faculties in academic institutions. The Study Group indicated that young scientists, having just embarked upon what were perhaps their most creative years, often found that their research interests were hampered by too extensive teaching and administrative responsibilities. They were hampered also by lack of institutional funds for research, and their research efforts were often devoted to projects of a developmental rather than of a purely scientific character because of governmental or industrial interest in the projects.

In outlining a program for basic research, the Study Group recommended that the Foundation might establish fellowships for outstanding young scientists. Funds granted under a fellowship would be unencumbered, and the scientist selected would have maximum freedom in applying the stipend to the pursuit of his scientific research interests. The Study Group recommended further that, for the time being at least, the scientists selected for these proposed stipends might be those working in the basic physical sciences, namely, chemistry, physics, and certain peripheral and allied fields, such as astrophysics and geochemistry, and in mathematics.

The Foundation's Trustees acted promptly upon these recommendations and established what has come to be called the Foundation's Program in Basic Science. Initial commitments were voted. A special department of the Foundation was created to be headed by an Administrator, and the first person selected for this post was Dr. Richard T. Arnold, at the time Head of the Department of Chemistry at the University of Minnesota. To assist him in the initiation and expansion of this new Program, the Trustees authorized the creation of a special group of consultants to be known as the Program Committee. At the same time, a special committee of the Trustees was established to review and act officially upon all recommendations for grants under this project. This committee consisted of Dr. James R. Killian, Jr., Dr. Mervin J. Kelly, and Mr. Frank A. Howard, the latter serving as the chairman.

Initial grants under the Program were made in 1955. Appropriations have grown each year, and at the present time (1960) the Foundation is appropriating approximately $1 million for this project annually. Of this amount about 40 per cent is allocated to chemistry, about 40 per cent to physics, and about 20 per cent to mathematics. One hundred and twenty-five fellows were supported by the commitments made in 1959 and 1960. Since its inception in 1955 the Program has provided support for 189 individual scientists and has made grants to some 58 universities for this purpose. The administrators of the Program have been successful in directing their grants to relatively young but established scientists. Of the 36 scientists who had not previously received support under this Program and for whom stipends were authorized to commence in 1961, the age range was 26 to 39 years. Both the average and median age of the group was 32. The scientists whose research is financed by the Program are known as "Alfred P. Sloan Research Fellows."

Nominations of candidates for the research fellowships normally come from senior professors of the various scientific disciplines and from department heads of colleges and universities. Nominations are also made by existing and former holders of stipends. After nominations have been secured and appropriate supplemental information on the candidates has been obtained, the Administrator of the Program and members of the Program Committee evaluate all nominations in a series of meetings held during the year. By October, virtually all final selections have been made and, following

approval of the proposed list of fellows by the Trustees' Committee on Scientific Projects, the successful nominees are informed of their selection.

An essential feature of the Program is its provision for payments for liberal overhead to the universities in which the fellows conduct their research. Provision is also made to supply necessary and unusual equipment that may be required by the research plans of the fellow. Thus, for example, of the $972,000 committed in 1959-60, $157,000 went directly to the universities involved to defray overhead costs; $69,000 was earmarked for special capital equipment; and $746,000 went for actual stipends and the incidental expenses of the fellowship holder. Comparable figures for 1960-61, in which the total appropriation was approximately $976,000, were as follows: $159,000 for indirect costs, $71,000 for capital equipment, and $746,000 for stipends.

Comment on the Program has been generally favorable. Scientists have been particularly impressed by the unencumbered nature of the commitments made to researchers, the freedom which the fellowship gives the scientist-researcher to determine the direction of his interests, and the policy of supporting talent rather than projects. Those in charge of the Program are inclined to maintain its present form and procedure, although there is some likelihood that additional effort will be made in the future to identify scientists who are active in what might be called "interdisciplinary fields," that is, scientists whose research does not fall too obviously into one of the more orthodox disciplines of physics, chemistry, and mathematics, to which most of the funds in this project have been committed up to now.

The original Program Committee of consultants consisted of Dr. James B. Fisk, now President of Bell Telephone Laboratories, Inc.; Dr. Kenneth S. Pitzer, Professor and Dean of the College of Chemistry at the University of California at Berkeley; Dr. Frederick Seitz, Professor and Head of the Department of Physics at the University of Illinois; Dr. Albert W. Tucker, Professor and Chairman of the Department of Mathematics at Princeton University; and Dr. Arthur C. Cope, Professor and Head of the Department of Chemistry at the Massachusetts Institute of Technology. The latter served as chairman. As of December 1960 the Program Committee of consultants consisted of the following: Dr. Polykarp Kusch, Professor and Head of the Department of Physics, Columbia University; Dr. Nelson J. Leonard, Professor of Chemistry, University of Illinois; Dr. Edward J. McShane, Professor of Mathematics, University of Virginia; Dr. Deane Montgomery, Professor of Mathematics, Institute for Advanced Study; Dr. Leonard I. Schiff, Professor and Head of the Department of Physics, Stanford University; and Dr. Henry Taube, Professor of Chemistry, University of Chicago. The latter is presently (1960) chairman of the committee. Currently the Foundation's Committee on Scientific Projects, which supervises this project on behalf of the Trustees, consists of: Dr. Mervin J. Kelly, Dr. James R. Killian, Jr., Mr. Frank A. Howard, and Dr. Warren Weaver. The latter serves as chairman of the committee.

More extended comment on this project may be obtained from a booklet published by the Foundation in 1960, entitled "A Program for Basic Research in the Physical Sciences." The booklet is largely the work of the former

Members of the Program Committee of the Foundation's Basic Science Program. Clockwise: Professors: Leonard I. Schiff, Stanford University; Polykarp Kusch, Columbia University; Nelson J. Leonard, University of Illinois; Dr. Larkin H. Farinholt, current Administrator of the Program; Henry Taube, University of Chicago; Edward J. McShane, University of Virginia; and Deane Montgomery, Institute for Advanced Study. Photograph by A. F. Sozio.

Administrator of the Program, Dr. Richard T. Arnold. It bears a foreword by Mr. Sloan, President of the Foundation. In this connection mention might also be made of a booklet recently published by the Foundation, entitled "A Great Age for Science," written by Dr. Warren Weaver, Vice President of the Foundation. This is a reprint of the essay which Dr. Weaver contributed to the series of supporting essays published by The President's Commission on National Goals under the general title, *Goals for Americans* (Prentice-Hall, Inc., 1960).

GRANTS IN BASIC SCIENCE— RECIPIENTS OF FELLOWSHIP STIPENDS, 1959-60

Brigham Young University, Provo, Utah
H. Tracy Hall, *Chemistry*

University of British Columbia, Vancouver, B.C., Canada
Jack Halpern, *Chemistry*

Brown University, Providence, R. I.
Leon N. Cooper, *Physics;* Herbert Federer, *Mathematics;* John Ross, *Chemistry;* John Wermer, *Mathematics*

California Institute of Technology, Pasadena, Calif.
Richard P. Feynman, *Physics;* Murray Gell-Mann, *Physics;* Harden M. McConnell, *Chemistry;* John R. Pellam, *Physics;* John H. Richards, *Chemistry;* Gerald J. Wasserburg, *Geochemistry;* Fredrik Zachariasen, *Physics*

University of California, Berkeley, Calif.
James R. Arnold, *Chemistry;* Errett A. Bishop, *Mathematics;* Heinz O. Cordes, *Mathematics;* Dudley R. Herschbach, *Chemistry;* Lucien M. LeCam, *Mathematics;* Stephen Smale, *Mathematics;* Andrew Streitwieser, Jr., *Chemistry;* Michael Tinkham, *Physics;* J. Francois Treves, *Mathematics;* Ariel G. Zemach, *Physics*

University of California, Los Angeles, Calif.
William G. McMillan, Jr., *Chemistry*

Carnegie Institute of Technology, Pittsburgh, Pa.
Simeon A. Friedberg, *Physics;* Robert T. Schumacher, *Physics*

Case Institute of Technology, Cleveland, Ohio
Frederick Reines, *Physics*

University of Chicago, The, Chicago, Ill.
Walter L. Baily, Jr., *Mathematics;* Russell J. Donnelly, *Physics;* Eldon Dyer, *Mathematics;* Robert A. Gomer, *Chemistry;* William L. Lichten, *Physics;* Stuart A. Rice, *Chemistry;* Nien-chu Yang, *Chemistry*

Columbia University, New York, N. Y.
Richard Bersohn, *Chemistry;* Ronald Breslow, *Chemistry;* Gerald Feinberg, *Physics;* Richard V. Kadison, *Mathematics;* Martin Karplus, *Chemistry;* Serge Lang, *Mathematics;* Robert Novick, *Physics;* Melvin Schwartz, *Physics;* Jack Steinberger, *Physics*

Cornell University, Ithaca, N. Y.
Robert H. Brout, *Physics;* Jerrold Meinwald, *Chemistry;* Richard F. Porter, *Chemistry*

Duke University, Durham, N. C.
Horst Meyer, *Physics;* Jacques C. Poirier, *Chemistry*

Emory University, Atlanta, Ga.
Charles E. Boozer, *Chemistry*

Florida State University, Tallahassee, Fla.
Ernest M. Grunwald, *Chemistry*

University of Georgia, Athens, Ga.
Marion K. Fort, Jr., *Mathematics*

Harvard University, Cambridge, Mass.
William Klemperer, *Chemistry;* Arthur E. Lilley, *Astronomy;* Paul C. Martin, *Physics;* Francis M. Pipkin, *Physics;* John T. Tate, *Mathematics;* Tai Tsun Wu, *Physics;* Peter Yates, *Chemistry*

University of Illinois, Urbana, Ill.
Douglas E. Applequist, *Chemistry;* Donald Ginsberg, *Physics;* Dillon E. Mapother, *Physics;* Kenneth L. Rinehart, Jr., *Chemistry;* Charles P. Slichter, *Physics;* John C. Wheatley, *Physics*

Indiana University, Bloomington, Ind.
Vernon J. Shiner, Jr., *Chemistry*

Iowa State University, Iowa City, Iowa
Charles H. DePuy, *Chemistry;* Glen A. Russell, *Chemistry*

Johns Hopkins University, The, Baltimore, Md.
Jun-ichi Igusa, *Mathematics;* Alex Nickon, *Chemistry*

Louisiana State University, Baton Rouge, La.
Richard D. Anderson, *Mathematics*

Massachusetts Institute of Technology, Cambridge, Mass.
F. Albert Cotton, *Chemistry;* David H. Frisch, *Physics;* Carl W. Garland, *Chemistry;* Frederick D. Greene, *Chemistry;* Franklin P. Peterson, *Mathematics;* Daniel B. Ray, *Mathematics;* Isadore M. Singer, *Mathematics;* John S. Waugh, *Chemistry*

University of Michigan, Ann Arbor, Mich.
Peter Franken, *Physics;* William J. LeVeque, *Mathematics*

University of Minnesota, Minneapolis, Minn.
Maurice M. Kreevoy, *Chemistry;* Irving J. Lowe, *Physics;* T. Michael Sanders, Jr., *Physics*

New York University, New York, N. Y.
Peter D. Lax, *Mathematics;* Kurt M. Mislow, *Chemistry;* Louis Nirenberg, *Mathematics;* Jacob T. Schwartz, *Mathematics*

University of North Carolina, Chapel Hill, N. C.
Rolfe E. Glover, III, *Physics*

Northwestern University, Evanston, Ill.
Myron L. Bender, *Chemistry*

Ohio State University, The, Columbus, Ohio
Michael P. Cava, *Chemistry*

Oregon State College, Corvallis, Ore.
John L. Kice, *Chemistry*

University of Oregon, Eugene, Ore.
Terrell L. Hill, *Chemistry;* John A. Schellman, *Chemistry*

University of Pennsylvania, Philadelphia, Pa.
Alan G. MacDiarmid, *Chemistry*

Polytechnic Institute of Brooklyn, Brooklyn, N. Y.
Rudolph A. Marcus, *Chemistry*

Most recently appointed members of the Program Committee of the Foundation's Basic Science Program: Professor Leonard I. Schiff of Stanford University, left. Photograph by Hans Roth. *Professor Nelson J. Leonard of the University of Illinois, right.* Photograph by Pilon Studio.

LEONARD I. SCHIFF

NELSON J. LEONARD

Princeton University, Princeton, N. J.
Val L. Fitch, *Physics;* Robert C. Gunning, *Mathematics;* John W. Milnor, *Mathematics;* Charles W. Misner, *Physics;* Marcos Moshinsky, *Physics;* O. Timothy O'Meara, *Mathematics;* C. D. Papakyriakopoulos, *Mathematics;* S. B. Treiman, *Physics*

Purdue University, Lafayette, Ind.
Richard W. King, *Physics*

University of Rochester, Rochester, N. Y.
Charles J. Goebel, *Physics;* Kenneth J. Teegarden, *Physics*

University of Southern California, Los Angeles, Calif.
Jerome A. Berson, *Chemistry*

Stanford University, Stanford, Calif.
William A. Little, *Physics*

University of Texas, The, Austin, Texas
Rowland Pettit, *Chemistry*

University of Toronto, Toronto, Ont., Canada
John C. Polanyi, *Chemistry*

Tulane University, New Orleans, La.
Fred B. Wright, Jr., *Mathematics*

University of Virginia, Charlottesville, Va.
Pierre E. Conner, Jr., *Mathematics;* Edwin E. Floyd, *Mathematics;* Loren G. Hepler, *Chemistry*

University of Washington, Seattle, Wash.
David Bodansky, *Physics;* George D. Halsey, Jr., *Chemistry;* Victor L. Klee, *Mathematics;* Kenneth B. Wiberg, *Chemistry*

Wayne State University, Detroit, Mich.
Norman L. Allinger, *Chemistry*

University of Wisconsin, Madison, Wis.
Marvin E. Ebel, *Physics;* Edward M. Kosower, *Chemistry*

Yale University, New Haven, Conn.
Robert K. Adair, *Physics;* Felix E. Browder, *Mathematics;* Harold Conroy, *Chemistry*

SYMPOSIUM ON BASIC SCIENCE

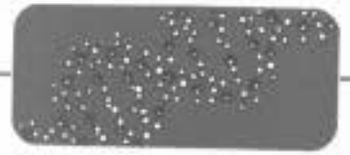
As a result of the interest generated by the Foundation's program in basic scientific research and a desire to consult with the scientific community on the condition of scientific research, the Foundation organized a symposium on basic research in 1959 in conjunction with the National Academy of Sciences and the American Association for the Advancement of Science. The symposium, which was held at the Caspary Auditorium of The Rockefeller Institute, May 14-16, was attended by more than 450 representatives of scientific and medical disciplines from universities, research institutes, and industrial laboratories. Some 16 papers were presented by outstanding scientists, heads of academic institutions and foundations, and certain industrial leaders. The symposium was climaxed by a dinner given on Thursday evening, May 14th, which was addressed by the President of the United States. The title of the President's address was "Science: Handmaiden of Freedom." It was an eloquent plea for the enlargement of support of pure science, both by Government and private agencies.

The various contributions were subsequently edited by Dr. Dael Wolfle, Executive Officer of the American Association for the Advancement of Science, and the collection of papers and addresses, with a preface by Dr. Warren Weaver, Vice President of the Foundation, was published by the Foundation in August 1959 under the title, *Symposium on Basic Research.* Copies of this volume may be obtained from the Foundation.

RESEARCH IN THE PHYSICAL SCIENCES—MASSACHUSETTS INSTITUTE OF TECHNOLOGY

The largest grant made during the biennium, and one of the largest which the Foundation has ever made, was one of $5 million authorized in May 1960 for the support of research in the physical sciences at the

Massachusetts Institute of Technology. This grant to MIT is closely related in purpose to the Foundation's broad interest in supporting basic research in the physical sciences, an interest which, as previously indicated in this *Report,* led to the establishment of the Foundation's own program in this field. In administering the grant, the Institute's officials propose to adhere to the Foundation's policy of supporting "people as distinguished from projects." According to the authorities of the Institute, the magnitude of the funds thus committed to the Institute and the unrestricted nature of the grant will enable MIT to support its scientists in interdisciplinary areas or in areas that receive relatively little support. It will also permit Institute scientists to pursue their research without any specific objective such as is normally identified in a "research project."



Research in Cancer and Allied Diseases

SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH–MEMORIAL SLOAN-KETTERING CANCER CENTER

DURING THE PAST 15 YEARS, as already indicated, more than 20 per cent of the revenue of the Foundation has gone to cancer research. With certain exceptions, to be noted later, these funds go to the Sloan-Kettering Institute for Cancer Research, a part of the major center for research in neoplastic diseases and their treatment, now known as the Memorial Sloan-Kettering Cancer Center.

Both the Foundation and Mr. Sloan, its President, have been closely identified with the evolution of the Sloan-Kettering Institute since its founding in 1945. The original research building of the Sloan-Kettering Institute was almost wholly financed by a Foundation commitment made in 1945 which, with certain supplementary grants, approximated $4.6 million. A substantial part of these funds was used to finance the original operational budget of the Institute. Over the years since the establishment of the Institute, the Foundation's Trustees have continued to make generous contributions. It is estimated that past grants and future commitments totaled approximately $14.7 million at the end of December 1960. These have been devoted to capital expenditures and to the general operations of the Institute. Among these commitments is one of indefinite duration which provides for an annual contribution to the Institute's operational budget. Originally this amounted to $200,000 per annum. Since 1956 the amount involved has been $400,000 per annum. This indefinite commitment is subject to cancellation by the Foundation on five years' notice.

Although the Foundation's contribution has been of considerable magnitude, its relative importance to the operational budget of the Institute has declined as the Institute's financial needs have expanded. At the present time, its annual budget is in the neighborhood of $9 million. Thus the Foundation's normal annual contribution to the Institute budget is approximately 5 per cent of that budget. The Foundation does, however, often make additional special grants. Funds are also contributed to the Institute by a large number of individuals, corporations, and foundations. Main support is now supplied by the National Cancer Institute of the United States Public Health Service. The United States Atomic Energy Commission also supports certain projects. Generous contributions are made annually by the American Cancer Society. Published reports of the Institute state that more than 2,000 interested individuals, foundations, and corporations contribute to its work.

Mr. Sloan's personal interest in the Institute has been exhibited in various ways. Much of the original inspiration for the creation of this research center is to be attributed to his imagination and initiative and to those associated with him in the enterprise. Associates included the late Dr. Charles F. Kettering, whose name is conjoined with Mr. Sloan's in the name of the Institute; Mr. Frank A. Howard, who has been active in the organization and management of the Institute's affairs since its creation; and the late Dr. Cornelius P. Rhoads. In creating the Institute, these four individuals decided to establish a major research organization for cancer closely affiliated with an existing cancer treatment center and thereby broaden and give new impulse to the study of cancer. The evolution of the Institute since 1945 suggests the measure of the success which this original concept has enjoyed.

The sudden death in August 1959 of Dr. Rhoads, the Director of the Sloan-Kettering Institute, was a great personal loss to his many friends and associates, and a great loss also to the organized scientific effort for the control of cancer. Dr. Rhoads had dedicated his great talents as a physician and scientific leader to this effort since 1939. From then until 1950 Dr. Rhoads was Director of the Memorial Hospital for Cancer and Allied Diseases. In the latter year he relinquished that directorship in order to devote his full attention to the increasingly extensive and complicated research program at the Institute of which he had also been Director since its establishment in 1945. It was under his leadership that the Sloan-Kettering Institute quickly achieved its status as one of the world's leading cancer research organizations.

In June 1959, Mr. Sloan resigned as Chairman of the Board of Trustees of the Institute, an office which he had held since its establishment. Mr. Sloan continues to serve as a trustee of the Institute and maintains his active interest in the Center. Mr. Frank A. Howard, a trustee of the Foundation, is Chairman of the Institute. During the summer of 1960, the Sloan-Kettering Institute and the Memorial Cancer Center made important changes in their corporate arrangements. According to an announcement at the time, the changes were made "to keep pace with the scientific advances of recent years and the increasing need of closer relations between the physician and scientist." A new corporation was created known as the Memorial Sloan-Kettering Cancer Center which will carry on some common services for both the Memorial Hospital and Sloan-Kettering Institute and assist both in many ways. The Institute will continue as the research arm of the unified effort and will collaborate even more closely with the cancer treatment arm of Memorial Hospital for Cancer and Allied Diseases. The Chairman of the newly created common organization is Mr. Laurance S. Rockefeller. Dr. Frank L. Horsfall, Jr., formerly Vice President of The Rockefeller Institute and a well-known virologist and chemotherapy specialist, became President and Director of Sloan-Kettering Institute on April 1, 1960. Dr. John R. Heller, formerly Director of the National Cancer Institute, was appointed President of the newly organized Center. Dr. Heller has a national reputation as a leader in cancer research.

During 1958 construction was begun at Rye, New York, of a new laboratory, which was completed shortly thereafter. Known as the Donald S. Walker Laboratory of the Sloan-Kettering Institute, it houses work in experimental chemotherapy and virology. Dr. C. Chester Stock, Vice President for Research of the Sloan-Kettering Institute, serves as Director of the Walker Laboratory.

An augmented research program, recently announced by the Institute, will require an increase in facilities and equipment as well as staff. Plans already announced by Sloan-Kettering Institute call for construction of a new 12-story laboratory building, which it is expected will be completed in 1963. This laboratory will be erected on a site adjacent to the Institute's present research structure in New York.

In some of its more recent reports this cancer research project indicates that its entire research program will be expanded and that increased attention

will be devoted to efforts to understand the cause and origin of cancer. Commenting upon this augmented program, Dr. Horsfall, the new Director, stated that "knowledge has increased to a new level which makes thorough and penetrating research on the genesis of cancer almost an obligation." He indicated that "the additional scientific program will embrace many disciplines and will utilize as fully as possible knowledge recently gained as well as advanced techniques and new research facilities." The areas where recent developments appear to have opened up promising opportunities for the expanded research effort are those of biochemistry, cytology, genetics, immunology, and virology. An authoritative statement of the expanded research program contemplated at the Sloan-Kettering Institute can be obtained from periodic *Progress Reports* issued by the Institute.

SOUTHERN RESEARCH INSTITUTE

For several years this Foundation, together with others, especially the Charles F. Kettering Foundation, has contributed to the support of cancer

Donald S. Walker Laboratory of the Sloan-Kettering Institute, Rye, New York, opened in spring 1959. See preceding page.

projects at the Southern Research Institute, Birmingham, Alabama, which are carried on in cooperation with the research program of the Sloan-Kettering Institute. Most of the work at Southern Research Institute has been developed in conjunction with Sloan-Kettering's chemotherapy program. The work is conducted chiefly in the Southern Research Institute's Kettering-Meyer Biological Laboratory. An additional commitment for this activity, amounting to $225,000, was made to the Southern Research Institute during 1959-60. The new commitment, payable at the rate of $75,000 per annum, expires in December 1962.

SLOAN-KETTERING NAIROBI CHEMOTHERAPY PROGRAM

Not unlike the cooperative arrangements with the Southern Research Institute is one recently made between the Sloan-Kettering Institute and the African Research Foundation of New York for a cancer chemotherapy research program in Nairobi, Kenya, East Africa. This project offered a special opportunity to study certain unusual forms of cancer and introduce into Kenya the most advanced methods of drug treatment of cancer developed in the United States and elsewhere. A volunteer team of physicians and technicians from the Memorial Sloan-Kettering Cancer Center in New York became identified on a temporary basis with the two major hospitals in Nairobi during the term of this project. This Foundation made a commitment of $150,000 for this pilot operation in October 1960.

MEMORIAL CENTER NURSE INTERNSHIP PROGRAM

Some years ago New York University, the Sloan-Kettering Institute, and the James Ewing Hospital began a cooperative program for the training of nurses with special knowledge of problems of cancer therapy and cancer research. The program known as the "Internship in Oncological Nursing," which began with four students in 1955, has been gradually increased. The directors of the program hope to reach a maximum enrollment of 40 nurses. A sizable percentage of those enrolled come from foreign countries. The program, conducted under the leadership of Dr. Martha E. Rogers, Chairman of the Department of Nurse Education at New York University, has a special faculty of four. Miss Rosemary Bouchard serves as immediate director of the project. Grants for this program, beginning in 1955, have been supplemented from time to time. A terminal grant of $75,000 was authorized by the Trustees in June 1959.

Ophthalmology and Otology

COUNCIL FOR RESEARCH IN GLAUCOMA AND ALLIED DISEASES

ALTHOUGH ITS MEDICAL PROGRAM is largely confined to research on cancer, the Foundation has in recent years also explored fairly extensively another medical area. This area includes certain diseases of the eye, particularly glaucoma and uveitis. Glaucoma is the major cause of blindness in the United States and affects some 2 or 3 per cent of the population. Advances have been made in the diagnosis and treatment of the disease, and authorities consider the prognosis good at the present time, providing diagnosis can be made early.

During the next two or three decades, researchers into the nature of this disease hope to be able effectively to eliminate blindness caused by glaucoma. To realize this hope, experts point out that a sustained effort will have to be made to determine the etiology of glaucoma, make possible early diagnosis, and improve medical and surgical treatment.

Funds appropriated by the Foundation for research on glaucoma and uveitis have been channeled through an *ad hoc* organization, known as the Council for Research in Glaucoma and Allied Diseases. The Council's Chairman is Dr. Conrad Berens, who is Consultant to the Department of Research of the New York Eye and Ear Infirmary. Other ophthalmologists associated with him on the Council are: Dr. John H. Dunnington, Professor of Ophthalmology, Emeritus, Columbia University; Dr. Edwin B. Dunphy, Chief of Ophthalmology, Massachusetts Eye and Ear Infirmary; Dr. A. E. Maumenee, Ophthalmologist-in-Chief and Professor of Ophthalmology, The

The recording of electrical responses to sound stimulation of the auditory nerve. Otological Research Laboratory of the Department of Otorhinolaryngology, New York University Medical Center.

Johns Hopkins University School of Medicine; Dr. Frank W. Newell, Professor, Department of Surgery, and Chairman, Section of Ophthalmology, University of Chicago; and Dr. R. Townley Paton, Surgeon Director, Manhattan Eye, Ear and Throat Hospital. Certain members of the Foundation staff serve ex officio on the Council. These are Mr. Raymond P. Sloan, Vice President; Mr. James F. Kenney, Secretary and Treasurer; and Dr. Arnold J. Zurcher, Vice President and Executive Director. The Council's offices are at 111 East 59th Street, New York 22, N. Y. Mrs. Mary M. Mollica is the Executive Secretary.

Over the two-year period covered by this *Report,* the Foundation has committed somewhat more than $210,000 for various research projects on glaucoma. Ten grants were made from this appropriation in 1959 and 13 in 1960. During the last two years, the Council has emphasized the importance of increasing the supply of trained personnel in the medical and basic sciences that are directly or indirectly related to ophthalmology. Accordingly, the Council has channeled some of the available funds into fellowship stipends for medical students with an interest in ophthalmology. Two fellowship stipends were authorized in 1959, and four were authorized in 1960. They were awarded to students at The Johns Hopkins University, the Harvard University School of Medicine, the Wills Eye Hospital in Philadelphia, and the University of Oregon Medical School. A small amount of the appropriation has also been used to finance symposia to survey the research problem relating to uveitis and to define areas of investigation of this disease that might prove of interest to research specialists. Two such symposia have been held in recent years, the first one in May 1958 in Princeton, New Jersey and the second in November 1960 at the Kenwood Country Club in Washington, D. C. Some of the papers presented at these conferences and some particulars of the proceedings have been published. A third symposium is scheduled for 1961.

DESCRIPTION OF PROJECTS IN OPHTHALMOLOGY

Medical College of Virginia, Richmond, Va. Work continued at this institution on the anatomy and histology of the normal rabbit eye. Studies have also been made of congenital glaucoma of the eyes of the white New Zealand rabbit. Grants to this institution totaled $7,300. Research has been directed by Dr. L. Benjamin Sheppard.

Washington University School of Medicine, St. Louis, Mo. Under the leadership of Dr. Bernard Becker of the Department of Ophthalmology, this institution has continued its investigation into the causes of glaucoma. To this end attention has been given to the measurement of intraocular pressure, the measurement of the rate of production of the aqueous humor, and to a study of the nature of the aqueous humor itself. One of the primary aims of the research is to develop means for early detection and diagnosis of glaucoma. Grants from the Council to this project totaled somewhat over $36,000.

Armed Forces Institute of Pathology–National Academy of Sciences, Washington, D. C. Investigations at the Institute have had as their aim a study of various kinds of ocular diseases which may be elicited by immunological methods in the experimental animal. Some results of these investigations were published in the *American Journal of Ophthalmology* in November 1959. Funds contributed for these investigations by the Council totaled $31,781. Principal investigator and director of the project has been Dr. Lorenz E. Zimmerman.

The University of California Medical Center, San Francisco, Calif. Contributions made by the Council's grants to this institution supported a broad ophthalmological research program. The Center's program has included perfusion work, experimental pigmentary glaucoma, and certain histological studies. Research activity at the Center is directed by Dr. Michael J. Hogan, head of the Center's Francis I. Proctor Foundation. Amounts authorized for this project totaled $19,000.

Baylor University College of Medicine, Houston, Texas. Support was continued for this project by the Council, the funds contributed during the biennium having amounted to $27,125. The University's Departments of Microbiology and of Ophthalmology have collaborated in the research supported by the Council. Considerable success has attended the work at Baylor's tissue culture laboratory in which cultures of all major tissues of the uveal tract have been successfully cultivated from human and experimental animal sources. These tissue cultures are of importance in the study of uveitis and the relation of uveitis as a factor in inducing glaucoma and blindness. Principal investigators at Baylor are Dr. Charles B. Dukes and Dr. Louis J. Girard.

Manhattan Eye, Ear and Throat Hospital, New York, N. Y. The Council has supplied $12,500 to this institution during the biennium to permit Dr. Adolph Posner and his associates to continue their physiological and pharmacological studies of the corneoscleral trabeculae in normal and glaucomatous eyes. Additional studies have been made of the functions and pathologic changes of the cellular components of the trabecular meshwork.

College of Physicians and Surgeons, Columbia University, New York, N. Y. At this institution a study was begun in 1960 of the mast cells in the uvea. The laboratory has devised a method which permits the counting of mast cells and description of their distribution in the iris and choroid. This same procedure is now being applied to the study of uveal mast cells. Funds supplied for this project totaled $9,445. The research is being conducted by Dr. George K. Smelser of the Department of Ophthalmology.

Massachusetts Eye and Ear Infirmary, Boston, Mass. The Council has continued to supply funds to this institution for its basic experimental studies on glaucoma. The prime objectives of the studies are to gain a better understanding of the mechanisms of glaucoma and to improve diagnosis. Funds committed to this project by the Council totaled $3,215. This work continues under the direction of Dr. W. Morton Grant.

New York University–Post-Graduate Medical School, New York, N. Y. Funds totaling $12,562 were given to this institution to assist in a study of the ocular effects of endotoxin. This term designates certain toxic substances present in many bacteria and possibly in diseased tissue; and investigations are being continued in order to delineate the mechanism of their action in the eye. The primary investigator has been Dr. Ralph Z. Levene.

Retina Foundation, Boston, Mass. In July 1959 a special grant was made to this organization to assist it in providing necessary equipment for a new spectroscopy laboratory, especially an electron spin resonance machine and nuclear magnetic resonance spectrometer for biologic and medical studies. This grant of $10,000 supplements an earlier one made to this same organization in 1957.

RECORDING FOR THE BLIND, INC.

A little over three years ago, the Foundation made the first of a series of relatively small grants for the support of Recording for the Blind, Inc. New grants totaled $20,000 during the biennium under review. Recording for the Blind, Inc. was created by a group of public-spirited citizens, a little less than a decade ago, for the purpose of supplementing reading material available to blind students, especially those in college. Well-known educators, actors, and professional people identified with the arts, serving as volunteers, transcribe to tape the entire content of textbooks and other books used for educational purposes. The material is subsequently recorded on plastic discs which can be played back by the student. By these electronic media the organization is supplementing most effectively the traditional tactile and auditory means of communication with the blind. In the three-year period between 1958 and 1960, the number of book titles transcribed has approached 1,000; and the number of discs recorded increased from about

Recording a book, containing dialogue, onto tape for blind students. Walter Cronkite, well-known CBS news correspondent, and Mrs. Eric Woolson, regular volunteer recorder, at Recording for the Blind, Inc.

49,000 to 162,000. Since each disc represents about 64 minutes of reading time, the output by 1960 totaled approximately 145,000 reading hours.

Recording for the Blind, Inc. indicates that it is now serving some 2,000 students throughout the United States. About half of these are in colleges; the remainder are pursuing courses in vocational and professional institutions. In recent years services have been extended to children at the elementary-school level, and textbooks are now being recorded for blind children in several states. During 1960 the Foundation was informed that steps had been taken to provide recordings for blind adults of news summaries of one of the nation's leading daily papers.

The address of the organization is 121 East 58th Street, New York 22, N. Y. Its president is Mrs. Frederick B. Payne, and its national director is Mr. Burnham Carter. Currently it has member units in approximately 14 states.

OTOLOGICAL RESEARCH—NEW YORK UNIVERSITY MEDICAL CENTER

About five years ago, the Foundation undertook responsibility for the support of some special research to be conducted at New York University Medical Center into the nature of the cochlea, part of the internal ear. The objective of the research was to seek methods of dealing with incipient nerve deafness, besides learning more about the actual nervous and chemical processes involved in the transmission of auditory sensations. The research has been carried on under the supervision of Dr. John F. Daly, who is Chairman of the Medical Center's Department of Otolaryngology. Subsequently, in 1959, the Foundation made another commitment of $75,000 for this project. This new grant will expire in August 1962.

One of the major research interests of Dr. Daly's laboratory has been investigation of the processes which interfere with the effective functioning of the cochlea in the internal ear. Efforts have also been made to measure hearing levels in humans and animals with appropriate electrical equipment, much of it created for this purpose by the laboratory technicians. Currently emphasis is being placed upon the use and development of electrophysiological techniques to study hearing potential and hearing impairment. Among other accomplishments of the project which its director has identified

is the staffing and equipping of a major laboratory for fundamental research in hearing and the designing and development of several important pieces of laboratory equipment required for testing hearing.

In the summer of 1960, the Foundation made still another grant for the support of otological research at New York University Medical Center. This grant, in the amount of $120,000, will assist the Center in equipping certain otology laboratories in a new building which New York University is constructing to house its medical research activities. Among the special pieces of equipment to be purchased, for which the Foundation's grant will be used in part, are a Siemens Electron Microscope, with appropriate accessories; a specially constructed vestibular rotating chair with controlled acceleration and deceleration; a vestibular testing chair; Allison hearing units; audiometers; and other basic laboratory items. This new grant was made in order to provide more effective equipment for the research project described above which the Foundation has been supporting.

GALLAUDET COLLEGE

During 1959 the Foundation made a grant of $5,000 for the support of a special project at Gallaudet College in Washington, D. C. The college, a private institution, is primarily concerned with the education of deaf students. The predecessor institution, the Columbia Institution for the Deaf, was created by Congress in 1857. The Foundation's grant will be used for a pilot project to produce instructional motion pictures for deaf students, which exploit lip reading and manual sign language.

THE DEAFNESS RESEARCH FOUNDATION

The Foundation also made a grant of $10,000 during the biennium under review to provide support for The Deafness Research Foundation. This project, recently organized, has offices in New York City, and seeks, among other activities, to encourage interest in research on deafness in major universities. To that end it endeavors to make the public aware of the extent of hearing impairment in the population, increase the flow of funds from private and public sources to research projects, support the training of investigators, and increase the level of funds being made available for educational and research activities in otology. The president of The Deafness Research Foundation is Mrs. Hobart C. Ramsey.

Science Writers' Development Projects

FELLOWSHIPS FOR SCIENCE WRITERS–COLUMBIA UNIVERSITY

IN HIS ESSAY ENTITLED "A Great Age for Science," mentioned earlier, which Dr. Warren Weaver, Vice President of the Foundation, contributed to The Report of the President's Commission on National Goals, Dr. Weaver states that "science is now completely interlocked with social and political questions, so that wise national decisions cannot be made without sound scientific bases." Elsewhere in the same essay Dr. Weaver points out how difficult it has become for a democratic electorate to make decisions or develop informed opinions on many social and governmental problems which have been raised as a result of the scientific and technological advances in the last two generations. Referring to C. P. Snow's *The Two Cultures and The Scientific Revolution*, Dr. Weaver has also emphasized some of the difficulties that intellectuals have in communicating with one another, especially the difficulty that humanists, and others trained in what might be described as non-scientific disciplines, experience in communicating with the scientists.

Aware of the difficulties in communication presented by these authorities, the Foundation has undertaken support of certain projects that may serve as models of the kind of educational programs that could overcome such difficulties or at least reduce them. The first such project was undertaken in 1957 when the Foundation, at the request of Dean Edward W. Barrett of Columbia's Graduate School of Journalism, supplied funds to help establish a series of fellowships for professional science writers. The purpose

Montage of special activities of Science Writers' Project, Columbia University, including trips to scientific laboratories and industrial establishments.

was to give writers who had had experience in evaluating scientific and technological problems for mass communication media, such as newspapers, wire services, periodicals, and radio and television, an opportunity to expand and improve their specialized knowledge of science and to become acquainted especially with some of the more recent advances in pure science, medicine, and technology. The Foundation's original grant for this project, made in October 1957, was $70,000, payable over a two-year period. It was supplemented by a still larger grant for the same project made by The Rockefeller Foundation.

The fellowships, which are now known at Columbia as the Sloan-Rockefeller Advanced Science Writing Career Stipends, cover class, tutorial, and other academic costs and also supply funds for living expenses for the period during which the fellows attend classes at Columbia. The first six stipends were awarded in the spring of 1958, for the academic year 1958-59, to reporters and science writers of certain newspapers and major wire services. For the academic year 1959-60, nine stipends were awarded. Again the recipients were chiefly professional journalists. However, the group included a trained scientist and an individual who had developed a professional career as a writer on medical subjects, and the first woman to be selected for the project.

In December 1960 the Trustees of the Foundation made still another commitment for this program, in the amount of $100,000. It is understood that the project has again received the support of The Rockefeller Foundation and that it will thus continue to be jointly financed with grants from the two foundations.

Of great moment in persuading the Foundation's Trustees to accept responsibility for this Science Writers' project was the high degree of cooperation which the School of Journalism at Columbia has secured from all of Columbia's faculties, including those of pure science, medicine, and engineering. Members of these faculties provide special instruction for the students in this project; or they develop seminars for them. In this cooperative fashion the resources of a great university are made available to meet the special needs of this unusual group of students. A sample of the courses taken by the students in this project includes anatomy, chemistry, biochemistry, geology, microbiology, physics, nuclear engineeering, public

health, zoology, psychiatry, and "computer programming and operation." A new interdisciplinary seminar, "Man and Radiation," was recently set up. Responsibility for the direction of this project has been assumed by Mr. John Foster, Professor of Journalism at Columbia.

Members of this fellowship group at Columbia also engage in certain special activities during their course of study. These include field trips to give the science writers perspective on the newest developments in industrial establishments, and university and governmental laboratories. In recent months, for example, visits have been made to Republic Aviation, Bell Telephone Laboratories, E. I. du Pont de Nemours & Company, the Armed Forces Signal Corps Research Center at Fort Monmouth, New Jersey, the Brookhaven National Laboratory, the Air Force Atlantic Missile Test Range at Cape Canaveral, Florida, The Arnold Engineering Center at Tullahoma, Tennessee, and to other governmental and industrial establishments. The students also attend professional meetings of various scientific and other societies, such as meetings of the American Rocket Society, the American Cancer Society, the Institute of Aeronautical Sciences, and the American Institute of Physics. Based on the information obtained from these special projects, the journalists often file science stories for the newspapers or other organizations by which they are normally employed, or they use the data as background for other articles which they will write later.

In a recent report to the Foundation, Dean Barrett has suggested that one of the incidental, but none the less substantial, advantages of the program is its enhancement of the prestige of science writing among publishers, editors, industrialists, and the scientific community itself, and the greater recognition which various media of communication may give to science material in the future.

COUNCIL FOR THE ADVANCEMENT OF SCIENCE WRITING, INC.

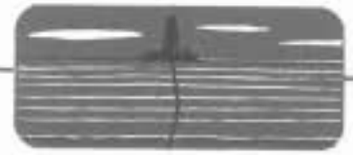
A more recent effort of the Foundation to make a contribution to the problem of better communication between science and the lay public took the form of a grant to the Council for the Advancement of Science Writing, Inc. The amount of the grant was $60,000, payable over a two-year period. Its general purpose is to assist the Council in its effort to increase and improve the caliber of science writing in the United States. The Council, recently

organized, consists of leading editors, publishers, academicians, scientists, and science writers. Its president at the time the grant was made was Mr. Earl Ubell, Science Editor for the *New York Herald Tribune*.

In its charter, the Council states its purpose is "to heighten and broaden the art of science journalism," the ultimate goal being "to provide the public with a clear, intelligent, and forthright interpretation of science and its meaning to society." To realize such an aim, the Council proposes to strengthen existing training and developmental programs for science writers and encourage the establishment of others, improve the handling of science news by the communication media, particularly the media of mass communication, serve as a clearinghouse for ideas relating to the profession of science writing, and conduct investigations directly or through third parties which may be expected to assist in the achievement of the long-range objective of the organization.

SCIENTISTS' COMMITTEE FOR RADIATION INFORMATION

Still a third effort of the Foundation to improve communication between the scientific world and the public is its encouragement of voluntary organizations of scientists who seek to inform the public on the potential health hazards of radiation arising from nuclear testing, so-called nuclear "fall-out," and too frequent use of X rays. These organizations take their inspiration from a group of scientists in New York, headed by Dr. Jules Hirsch of The Rockefeller Institute. The group is known as the Scientists' Committee for Radiation Information. The Foundation made a grant of $5,000 to this Committee in 1960 to assist it in developing its program and in aiding other communities that may be interested in setting up similar units. In its communication with the public, the Committee relies chiefly on its own lecturers, which it furnishes gratis, and on discussion groups.



Conferences and Symposia

INTERNATIONAL SCIENCE SYMPOSIUM–NEW YORK UNIVERSITY

In March 1960 the Foundation made a grant of $10,000 to New York University to assist it in financing an International Science Symposium planned in conjunction with the French Government and certain French academic institutions. The prime purpose was to canvass recent advances in certain special fields including metallurgy, astronomy, magnetic resonance, geology, hydraulics, and chemistry. A delegation of French scientists covering these special fields, headed by Dr. Pierre Pigagniol, distinguished polymer chemist, attended the sessions, along with various department heads from New York University and scientists from other leading universities and institutes. The Chairman of these meetings was Professor Serge A. Korff of New York University.

INTERNATIONAL OCEANOGRAPHIC CONGRESS–AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

A somewhat similar purpose motivated a grant of $10,000 made by this Foundation in April 1959 to the American Association for the Advancement of Science. Proceeds of this grant were to be used in support of a world meeting of oceanographers, held during September 1959, at the United Nations Building in New York. The Sloan Foundation grant supplemented support for this meeting from other public and private sources. In addition to the AAAS, the Oceanographic Congress had the sponsorship of UNESCO and the Committee on Oceanic Research of the International Council of Scientific Unions.

INTERNATIONAL ASTRONOMICAL UNION–NATIONAL ACADEMY OF SCIENCES

In May 1960 the Foundation made a grant to the National Academy of Sciences–National Research Council to assist in defraying the cost of the

Eleventh Congress of the International Astronomical Union. The Union, founded in 1919, has become a principal factor in promoting cooperation in research, exchange of data, and personal contacts among astronomers throughout the world. The General Assembly of the Congress will be held in Pasadena in August 1961 with an anticipated total attendance of 700 delegates, of which about 300 will come from outside the United States. The Foundation's grant supplements support coming from other private sources and from governmental bodies such as the National Science Foundation.

COMMITTEE ON OCEANOGRAPHY— NATIONAL ACADEMY OF SCIENCES

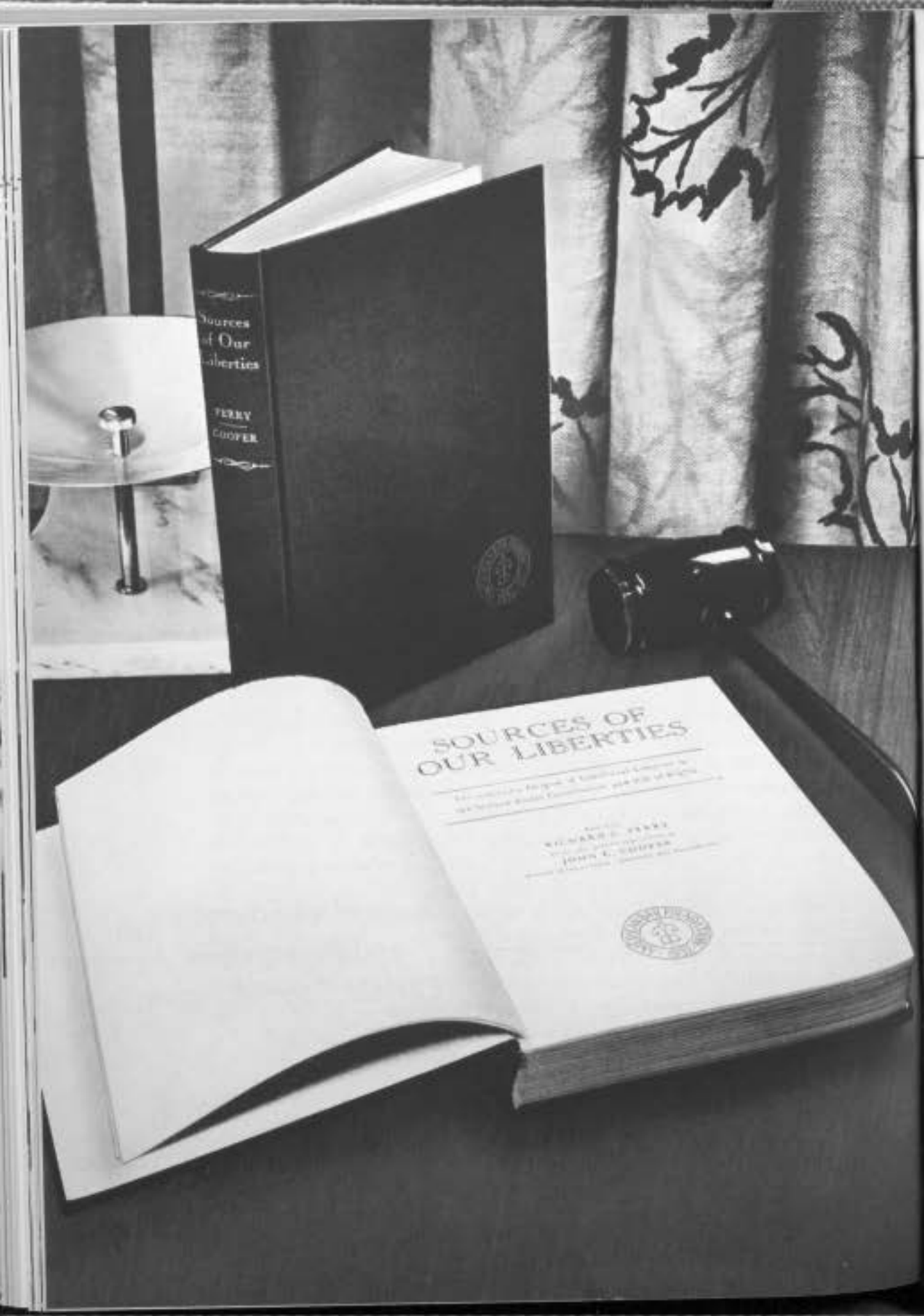
The above Committee was established in 1957 at the request of various federal agencies to provide an extensive survey of the status of the marine sciences and of the educational needs and research opportunities in that scientific area. In January 1959 the Foundation contributed $10,000 to the support of this Committee, part of the funds to be used to prepare, publish, and distribute a condensed form of the Committee's chief findings.

ADDITIONAL ACTIVITIES

Support has also been provided to a series of organizations whose purposes are broadly similar to those described above. Among these was the Golden Anniversary White House Conference on Children and Youth in 1960 for which a grant of $10,000 was made in May 1959. The first White House Conference concerned with the broad study of educational opportunities and welfare of children in American society was called by President Theodore Roosevelt in 1909.

A grant of $3,000 was also made to the New School for Social Research in 1959 to finance a series of seminars on science and adult education. In December of that year, the New School brought together an outstanding group of scientists to discuss, with experts in the field of adult education, the problem of improving communications in the various scientific disciplines.

Support of Education and Research in Certain Special Areas



Legal Education and Research

JOINT COMMITTEE ON CONTINUING LEGAL EDUCATION

ALTHOUGH THE FOUNDATION has no accepted program for the education and development of lawyers or for research in the administration of justice, it has, over the years, occasionally made small grants in these areas when the projects involved impinge upon other areas of activity in which the Foundation has an interest. Several such grants were made between 1958 and 1960. The first of these, in the amount of $25,000, was made nominally to The American Law Institute of Philadelphia. Proceeds of the grant are to be disbursed by the Joint Committee on Continuing Legal Education which has been established by the Institute and the American Bar Association.

The specific purpose of the grant is to support the Joint Committee's efforts to provide special texts and other curricular materials for a course on the law governing international transactions. The proposed course is one of four or five special courses which the Joint Committee hopes to make available through state and local bar associations to assist in the professional development of members of the bar. The courses have been developed in response to demands from the profession that efforts be made not merely to assist the lawyer to improve his competence in his immediate specialty, but to broaden his capacity to deal with problems which may arise out of his general public responsibilities.

A committee of leading members of the bar and members of law school faculties will be invited by the Joint Committee to assist in the preparation of text materials. The President of The American Law Institute is Mr. Harrison Tweed.

SOURCES OF OUR LIBERTIES, produced and published in 1959 by the American Bar Foundation. The volume was printed by the New York University Press. Photograph by A. F. Socio.

AMERICAN BAR FOUNDATION

A second special grant in this area was made to the American Bar Foundation to permit an appropriate committee of that foundation to publish and distribute a volume entitled *Sources of Our Liberties*. The amount involved was $10,000. The compilation of this volume and the incidental research had been supported by an earlier grant of the Foundation.[1]

The volume in question reproduces the actual text of many of the great documents in which are formulated the liberties of the citizen in Anglo-American jurisdictions. The documents have been printed either in the original or in an appropriate English translation. They include, among others, Virginia's first Charter of 1606, the Magna Carta of 1215, many of the Constitutions and Bills of Rights of the 13 original states, and other fundamental documents that have arisen out of English and American constitutional history. About 5,000 copies of the book were printed by the New York University Press and published during 1959. A considerable portion of the total printing was distributed to law school, college, and professional legal libraries, bar associations, and similar organizations. Additional copies have been distributed to schools and colleges where the volume serves as an appropriate reference work in courses in civics, political science, and history. The Foundation's grant assisted in paying a part of the cost of printing and publication and subsidized some of the distribution. The American Bar Foundation reports that it has also distributed some 1,500 copies of the volume to Fellows of the Foundation, deans of law schools approved by the American Bar Association, members of the federal judiciary, publishers and editors of leading magazines and newspapers, and news columnists and commentators. The remainder of the supply is to be sold by the distributor, New York University Press, primarily for use as school and college text and reference material.

The volume was edited by Mr. Richard L. Perry of the District of Columbia Bar. Mr. John C. Cooper, former Administrator of the American Bar Foundation, wrote the foreword and generally supervised the entire project. In its annual report for 1958-59, the American Bar Foundation comments that *Sources of Our Liberties* is the first major publication resulting from one of the approved legal research projects of that foundation.

[1] See *Report for 1957-1958*, p. 123.

LEGISLATIVE DRAFTING RESEARCH FUND—COLUMBIA UNIVERSITY

A project not unrelated to those already described is a research study center set up at Columbia University, under the direction of Professor John Kernochan, to provide background information for the analysis and possible revision of state constitutions in the United States. This project bears the endorsement of outstanding members of bench and bar and of the heads of such organizations as the Council of State Governments. Considerable interest in the project has also been expressed by the director of the Temporary Commission on the Revision and Simplification of New York State's Constitution.

For this project the Foundation made a grant of $10,000 in 1960. Its proceeds supplement contributions of similar or greater magnitude given by other foundations. The immediate aim of the project is to complete a compilation of all of the state constitutions, as currently revised and amended, in order to provide scholars, and those responsible for drafting future amendments and revisions of these documents, an immediate and authoritative reference source. Once this primary compilation has been made and published, the Council of State Governments has indicated that it is committed to the preparation and distribution of annual supplements identifying all changes from year to year.

NATIONAL CONFERENCE OF STATE LEGISLATIVE LEADERS

Still another grant which falls into the general area of legal research and education is one made in 1960 to the National Conference of State Legislative Leaders. The Conference was organized in Albany, New York in December 1959, chiefly to provide state legislators throughout the country with a constant appraisal and review of state legislative actions at the policy level. The Conference will encourage research and special studies for the solution of problems which the various legislatures have in common. One broad objective is to improve the significance of the legislature as a major policy organ in the government of the American states and to make more effective its role as the immediate representative of the electorate. The Foundation's contribution, supplemented by grants from other organizations, is designed to assist in financing the Conference in its early stages.

At the organizational meeting of the Conference in Albany, representatives of some 36 states and the Territory of Guam were in attendance. Its first president was the Honorable Walter J. Mahoney, majority leader of the New York Senate; and its first secretary, the late John J. Sandler, secretary of the New York Senate. Membership in the Conference is to be limited to the majority and minority leaders of the legislatures of the states and territories of the United States and of the Commonwealth of Puerto Rico. The Conference's second annual meeting was held in Chicago in November 1960. Assessments levied upon the state membership, to be paid out of public funds, are expected to finance the future operations of this organization.

THE LEGAL AID SOCIETY

For quite a number of years the Foundation has been making small grants to assist the work of The Legal Aid Society of New York. Such assistance was continued during the two years under review, contributions of $5,000 having been made annually to this organization. The grants are given for the general support of the Society's program to provide legal assistance to those incapable of providing their own legal services.

Economic Education and Research

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

THE FOUNDATION HAS CONTINUED its support of studies of long-term trends in productivity, real wages, and related phenomena at the National Bureau of Economic Research, Inc. These studies were begun at the National Bureau some years ago, with the financial support of the Foundation.[1] In December 1960 the Trustees of the Foundation authorized still another contribution of $200,000 to be paid early in 1961. Proceeds of this new grant will be used to finance continuing studies by the Bureau in this general area.

Published reports of the Bureau, for which the research was financed, at least in part, by this Foundation's grants, include John W. Kendrick's *Productivity Trends: Capital and Labor* (1956); Solomon Fabricant's *Basic Facts on Productivity Change* (1959); Clarence D. Long's *Wages and Earnings in the United States, 1860-1890* (1960); and Albert Rees' *New Measures of Wage-Earner Compensation in Manufacturing, 1914-1957* (1960). Relevant manuscripts to be published in 1961 include Albert Rees' *Real Wages in Manufacturing, 1890-1914*, and John W. Kendrick's *Productivity Trends in the United States*.

In commenting upon the Kendrick and Rees manuscripts, soon to be published, Dr. Arthur F. Burns, President of the National Bureau, stated that the former "is concerned with the long-term average rate of growth of national productivity, the degree to which the rate of productivity increase has varied over time, and the difference in the rate of productivity increase among different industries." Dr. Rees' manuscript provides new data on money wages and a new cost-of-living index for the period 1890-1914. Dr. Burns states that it had been the previous conclusion of economists that real

[1] See *Report for 1957-1958*, p. 127.

wages had remained stationary during this period. Dr. Rees' study indicates that such conclusions about real wages in the two decades before World War I were based on faulty statistics.

The general program of research in wages and productivity has been an important part of the over-all long-term research program of the National Bureau. The wage and productivity studies, states Dr. Burns, "are basic to understanding the processes of economic growth in this and other countries."

The National Bureau of Economic Research was founded in 1920. It is a private non-profit organization devoted to the scientific study and interpretation of economic data.

RESEARCH ON LARGE-SCALE ENTERPRISE— THE BROOKINGS INSTITUTION

Some years ago, this Foundation, together with others, supported a major Brookings Institution study on competition in large-scale enterprise. The director of this project at Brookings was its senior economist Dr. A. D. H. Kaplan. Two publications have arisen out of the study. One entitled *Big Enterprise in a Competitive System* was published in 1954. The other volume was *Pricing in Big Business* (1958). In this volume Dr. Kaplan was assisted by Dr. Joel B. Dirlam and Dr. Robert F. Lanzillotti.

During 1960 the Foundation made another grant to The Brookings Institution of some $41,000 to support an extension of the original project. The funds will be used to finance completion of a manuscript tentatively entitled *Growth Patterns of Large Corporations*. Dr. Kaplan will also continue his researches on the economics of large-scale enterprise, keeping current his data on the increase or decrease of concentration in significant industries and product markets, and on mergers and integrations. In addition, Dr. Kaplan will conduct a special seminar for selected scholars on the general area of his research at The George Washington University in Washington, D.C.

JOINT COUNCIL ON ECONOMIC EDUCATION

Among agencies especially concerned with economic education, to which the Foundation gave financial support during the biennium, is the Joint

Council on Economic Education. Grants to this organization totaled $20,000. Established shortly after World War II, the Joint Council has become an important agency for improving understanding of economic life. Its prime purpose is to assist local school systems and teacher-training institutions to improve the quality of economic education and provide suitable teaching material. Its research activities, seminars, and workshops are all concerned with this major purpose. The Joint Council has also aided in establishing some 30 regional councils of interested citizens throughout the country, which sponsor local forums and summer conferences for teachers and school administrators.

The Joint Council's board of trustees includes representative leaders of industry, labor, and agriculture. It also includes professional educators and scholars from professional and research organizations in the field of economics. Support for its activities is provided by several private foundations, in addition to the Sloan Foundation, and by the Committee for Economic Development. The Joint Council's Director is Dr. M. L. Frankel.

THE FOUNDATION FOR ECONOMIC EDUCATION, INC.

Funds in the amount of $15,000 were also contributed to The Foundation for Economic Education, Inc. of Irvington, New York. These funds supplement grants of similar magnitude given this organization during the past several years. For the greater part, the funds thus contributed have been devoted to the support of the general program of The Foundation for Economic Education, Inc., which includes research and publications in the field of economics. Latterly, however, the proceeds of the Sloan Foundation's grants have been applied to the grantee's "college-business exchange program."

Under this program, which has been in operation for some 12 years, professors of economics and related disciplines, from some 50 universities and colleges, are given an opportunity to spend from five to six weeks with various industrial firms, banks, or investment houses to observe and gain practical experience. The program has undoubtedly been partly responsible for other programs of a similar nature, designed to give academic people empirical and current knowledge of business. The college-business exchange program is supervised by Dr. W. M. Curtiss, staff member of The Foundation for Economic Education.

Professional Development Programs

MENNINGER SCHOOL OF PSYCHIATRY

AMONG PROFESSIONAL DISCIPLINES, other than business management, in which the Foundation has taken a limited interest in recent years is that of psychiatry. The Foundation became attracted to this field in 1956 by a project brought to its attention by the Menninger School of Psychiatry. The project in question seeks to bring to Topeka, in the capacity of Visiting Sloan Professor, outstanding scholars in psychiatry and peripheral disciplines. The visiting scholar may stay at Topeka for whatever interval of time is mutually agreeable to himself and the School. The period may be as limited as several weeks or it may lengthen into a full academic year. The visiting scholar delivers special lectures, both to the students and physicians, and conducts special seminars. He may also use this period as an opportunity to develop aspects of a particular research project.

The Foundation's original three-year grant of $150,000, which provides support for the project, was made in 1956. The grant was renewed for another three years in 1959, at the rate of $60,000 per year. Funds from these grants may also be used for other educational activities of the School of Psychiatry, the broad purpose being the support and improvement of the general educational program of the School. An additional contribution of $10,000 was made to The Menninger Foundation in October 1959 toward the cost of constructing and equipping a special children's hospital at the Menninger Center in Topeka.

Among the more recent appointments to Visiting Sloan Professorships, under the larger grant, is that of Dr. Jean Piaget, noted Swiss child psychiatrist and a pioneer in the investigation of the intellectual and perceptual development of children. Dr. Piaget, appointed at the end of 1960, is the sixteenth

distinguished scholar to serve in this program. Other scholars who have visited Topeka recently include Dr. Margaret Mead, the well-known anthropologist; Dr. P. C. Kuiper, distinguished Dutch psychoanalyst; Dr. Kenneth A. Hamilton, Professor of Medicine at the University of Alberta; and the well-known writer, Mr. Aldous Huxley.

The Menninger School of Psychiatry has long been an important training center for its specialty in the United States. Some 95 students are presently enrolled and serving residencies in the various hospitals identified with the School. The Dean of the School is Dr. Karl Menninger. His brother, Dr. William C. Menninger, is President of the affiliated Menninger Foundation. The Menninger School of Psychiatry is supported by tuition income, contributions of members of The Menninger Foundation, grants from the National Institute of Mental Health, and grants from certain private foundations.

Left: Dr. William C. Menninger, President of the Menninger Foundation; center: the writer, Aldous Huxley, who served as a Sloan Visiting Professor at the Menninger School of Psychiatry in 1960; right: Dr. Karl Menninger, Dean of the Menninger School of Psychiatry.

WORLD FEDERATION FOR MENTAL HEALTH

The only other commitment made by the Foundation in the field of psychiatry was one authorized at the end of 1960 for the World Federation for Mental Health. Its principal address is 19 Manchester Street, London W. 1. It also has an address at 162 East 78th Street, New York 21, N. Y.

The Federation is an international, non-profit organization made up of representatives from a variety of professional associations. It was organized in August 1948 with the stated purpose of promoting, among all peoples and nations, the highest level of mental health in the broadest biological, medical, educational, and social aspects of that concept. The Foundation's grant of $75,000, payable at the rate of $25,000 per annum, is a discretionary grant and can be used to support any of the grantee's normal activities. The Federation's present director is Dr. J. R. Rees.

SLOAN INSTITUTE OF HOSPITAL ADMINISTRATION–CORNELL UNIVERSITY

Still another special professional area in which the Foundation continues to be active, in a limited way, is that of hospital administration. A special Institute, known as the "Sloan Institute of Hospital Administration," was established at Cornell University in July 1955 with an initial grant of $750,000. Professor Frederic C. LeRocker, who had received his training in hospital administration at the University of Minnesota, became director of this Institute in 1956. As indicated earlier in this *Report*, the Institute is rather closely identified, for curricular and other purposes, with Cornell's Graduate School of Business and Public Administration.

As noted elsewhere in this volume, the Trustees of the Foundation made a grant to Cornell in 1960 of $400,000 to provide new housing and facilities for the Institute. At the time this capital contribution was made, the Foundation's Trustees also authorized an operational grant for the Institute in the amount of $600,000. Hence, the total commitment made in 1959 for the Institute of Hospital Administration was $1 million. The operational grant will be paid in installments, the last of which will become due in 1965.

The first group of students was admitted to the new Institute in September 1957. Unlike most hospital training programs, which are limited to a single academic year, the program at Cornell continues on the campus for a second year, students receiving a master's degree upon the completion of the two-year curriculum. The present enrollment at the Institute is approximately 25 students. Funds from the Foundation make it possible to provide fellowship stipends of varying amounts for most of those enrolled.

According to the faculty of the Institute, its educational aims are fourfold: (1) to provide basic knowledge and skills common to the best practice of administration in various specialized areas; (2) to impart an understanding of the role of the professions and agencies involved in disease prevention and control; (3) to develop analytical skills, powers of self-expression, and the capacity for making effective decisions; (4) to cultivate in the student a sense of responsibility for professional growth and a desire to make an effective contribution. The curriculum at the Institute is not only closely integrated with that of the School of Business and Public Administration, but attempts to take advantage of other educational resources at Cornell, particularly those offered by the other professional schools of the University.

A second activity of the Institute is a developmental program for practicing hospital administrators. This is limited to a period of about six weeks during the summer months. The first group of 20 administrators was brought to Ithaca in August 1958. A similar group, which held its sessions during July 1959, considered such problems as medical-care financing, more effective utilization of hospitals, the role of the hospital trustee, and a variety of other current issues in hospital administration. In a profession where the technological and administrative aspects of health-care services change so rapidly, practitioners find such meetings as these of considerable value.

A principal objective in establishing the Institute at Cornell in 1955 was to promote research in various phases of organized health care. Among the research projects of the Institute during 1960 were certain intrahospital organizational studies, studies concerning the external relations of hospitals, and still other studies on general medical-care problems. Among the latter category were such subjects as the rehabilitation of injured workers under New York State's Workmen's Compensation Program; the training of personnel and the staffing of organizations devoted to medical-care administra-

tion; and the extension of health insurance coverage to cases of mental illness. Some of the financing of the research program is derived from this Foundation's grants. Other research projects are financed by special grants from other agencies, private and governmental.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Among several special grants made by the Foundation is one to the Association of American Medical Colleges at Evanston, Illinois. A commitment of $50,000 was made to this organization in July 1960, payable at the rate of $25,000 per annum. It was to finance certain special research activities of the Association, more particularly to permit it to bring into its central staff an expert who could devote himself to the study of the administration of medical schools in the United States, with particular reference to the problem of the relationship between teaching and practice on the part of faculty members of such schools.

The President of the Association is Dr. Ward Darley. At an earlier period the Foundation contributed a sizable amount toward the total cost of the headquarters building of the Association, erected in Evanston some years ago. This construction grant is the only other grant which the Foundation has made to the Association.

Other Activities of the Foundation

Special Developmental Projects

THE AMERICAN NATIONAL RED CROSS

ALTHOUGH THE FOUNDATION does not normally make grants to established "charities," an exception has been made in the case of The American National Red Cross. As in former years, the Foundation has contributed $10,000 for each of the two years under review to the National Headquarters of the Red Cross in Washington, D. C. Proceeds of the grant are applied to the general operating expense of this organization whose total annual budget approximates $96 million. Additionally, in 1959, the Foundation made a special grant of $50,000 to The American National Red Cross to assist its New York Chapter to finance the construction of a new Operations and Service Center. This will be a part of New York City's Lincoln Square Redevelopment Area. Hence the Foundation's total commitments to the Red Cross amounted to $70,000 for all purposes during the biennium.

HOOVER INSTITUTION ON WAR, REVOLUTION, AND PEACE– STANFORD UNIVERSITY

An additional special grant was authorized by the Trustees in October 1959 in support of the Hoover Institution on War, Revolution, and Peace located on the Stanford University campus, in California. The commitment was $50,000, payable at the rate of $10,000 per annum.

The nucleus of the Hoover Institution, which is an important library resource of Stanford University, was created after World War I when former President Herbert Hoover began to assemble at Stanford a special collection of materials relating to that War. The original collection has now been supplemented by materials pertaining to the years since 1919 and especially

Design for the new apartment residence for nurses, Memorial Sloan-Kettering Cancer Center. Description of the grant appears in the Report for 1957-1958. Architects, Harrison & Abramovitz.

to the period since World War II. This collection presently consists of some 25 million items. The Institution thus provides a unique depository of source materials for historians and other scholars.

EISENHOWER PRESIDENTIAL LIBRARY

Toward the end of President Eisenhower's term of office, a national committee, headed by former Governor George Docking of Kansas and former United States Senator Harry Darby, was created to solicit private subscriptions for the construction of a library at Abilene, Kansas, which would house the former President's state papers. As in the case of similar institutions created to house the papers of some of General Eisenhower's predecessors, this proposed library at Abilene will have as its primary objective making available to scholars original source materials relating to President Eisenhower's leadership of the Allied Forces in Europe during World War II and to his administration as President.

The Foundation made a contribution of $20,000 toward the construction cost of this library. In so doing, it joined more than 20,000 individual private donors. It is understood that once the library is built and dedicated, its maintenance will be assumed by the National Archives Division of the United States Government.

PHOENIX PROJECT—UNIVERSITY OF MICHIGAN

Immediately after World War II, the University of Michigan set up a special research program on nuclear energy restricted to the peaceful scientific and medical applications of such energy. Between 1949 and 1951, more than 30,000 individual donors contributed some $8 million for this project, about a third of which was invested in buildings and equipment, the remainder being allocated to research projects and necessary overhead. Other facilities, added since 1961, include a powerful nuclear reactor and a new laboratory. Research has been pursued both in the natural and social sciences and in the health sciences.

In 1960 this Foundation made a contribution of $20,000 toward the further development of this important scientific research effort at the University of Michigan.

Other Projects

THE PRESIDENT'S COMMISSION ON NATIONAL GOALS

In 1960 this Foundation became one of the various financial supporters of a special project for which The American Assembly assumed responsibility. This Assembly was to serve as administrator of the work of the Commission on National Goals which had been appointed by former President Eisenhower in January 1960. This body was invited to make an appraisal of the potentials of the nation's future and to establish goals in various areas of our national life which in the words of the former President "would not only spur us on to our finest efforts, but would meet the stern test of practicality." The Commission consisted of 11 distinguished leaders and scholars of which Dr. Henry M. Wriston, President of The American Assembly, was Chairman, and Mr. Frank Pace, Jr. was Vice Chairman. The staff director of the Commission was Mr. William P. Bundy.

In conjunction with certain other foundations, the Alfred P. Sloan Foundation contributed $100,000 to support the work of this Commission. Its report, officially entitled *Goals for Americans*, was submitted to the President on November 16, 1960. To provide appropriate background the Commission was assisted by a number of specialists and *ad hoc* panels who contributed essays on various areas of our national life. The report itself and the background essays were subsequently published by Prentice-Hall, Inc. in 1960.

INSTITUTE OF INTERNATIONAL EDUCATION, INC.

During 1959 this Foundation assumed part of the financial responsibility for a study tour of Russia, made by a committee of nine Governors of American states under the auspices of the Institute of International Education. Funds appropriated for this purpose amounted to $16,890, an

equal amount having been contributed by the Rockefeller Brothers Fund. The group of nine Governors constituted, at the time, the Executive Committee of the National Governors Conference. They were: Governors LeRoy Collins (D., Florida), Chairman; George D. Clyde (R., Utah), John E. Davis (R., North Dakota), Luther H. Hodges (D., North Carolina), Robert B. Meyner (D., New Jersey), Stephen L. R. McNichols (D., Colorado), Robert E. Smylie (R., Idaho), William G. Stratton (R., Illinois), and Cecil H. Underwood (R., West Virginia). The major purpose of the visit was to observe the operation of Soviet public services at the local governmental level, especially administrative activities relating to education, public health, highway construction and maintenance, urban development, and the operation of local business establishments. The Governors were also interested in meeting political figures and administrators, both at the national and subordinate levels, within the USSR.

Accompanying them on the visit were a variety of academic specialists, headed by Dr. John E. Ivey, at the time Executive Vice President of New York University, and Mr. Kenneth Holland, President of the Institute of International Education, Inc. The aim of the specialists was to make reports on some of the activities observed in the USSR and to make provisions for the exchange of data among academic personnel in the United States and in the USSR. Mr. M. W. Rosenberg, Director of the Department for East-West Exchanges of the Institute, had general administrative responsibility for this project. A report of the visit was subsequently made by the Governors involved to the National Governors Conference which met in August 1959 in San Juan, Puerto Rico.

Vice President of the Alfred P. Sloan Foundation who contributed one of the background essays, "A Great Age for Science," to Goals for Americans, *The Report of The President's Commission on National Goals.* Photograph by Harold Haliday Costain.

DR. WARREN WEAVER

In addition to the special grant made for the above project, the Foundation also made a grant of $75,000 to the Institute of International Education in May 1960 for the general support of the operations of the Institute. The grant is to be paid over a three-year period at the rate of $25,000 per year. The grant will support the chief private organization in America which for more than 40 years has been providing leadership and guidance in international educational exchange programs.

THE AMERICAN ASSEMBLY–COLUMBIA UNIVERSITY

For several years the Foundation has made grants of limited magnitude to The American Assembly. Originally set up by former President Eisenhower, when he was President of Columbia, as a part of that institution, it has in recent years acquired a separate charter although maintaining its University affiliation. As already indicated, its President is Dr. Henry M. Wriston, former head of Brown University. Meetings are held at intervals which bring together men and women widely representative of American leadership at the Assembly's headquarters at Arden House, Arden, N. Y., the latter having been given as a home of The American Assembly by former New York Governor W. Averell Harriman. The eighteenth meeting of The American Assembly was held at Arden House in October 1960 and was devoted to the subject of the office of the Secretary of State.

Support is given The American Assembly by various foundations, corporations, and individuals. The grants made to the Assembly by the Foundation during the past two years totaled $10,000.

OTHER GRANTS

Finally, the Foundation has continued grants made in previous years to certain established educational organizations. Among these was a contribution of $15,000 to Freedom's Foundation, Valley Forge, Pennsylvania, for the general support of its program of awards in various fields. Grants totaling $12,500 also went to the Council on Foreign Relations, Inc. for educational and research activities relating to diplomacy, national security, and international relations generally. The Foreign Policy Association received $10,000 for its educational program in international relations.

In addition to these, the following received support in the amounts indicated and for the purposes identified:

Aid Refugee Chinese Intellectuals, Inc., New York 19, N. Y.: for general support of the program of the donee . . . . . $ 1,000

Akron, The University of, Akron, O.: to finance investigation of Russian educational and scientific resources by the University's President . . . . . $ 3,226

American Council for Emigrés in the Professions, Inc., New York 36, N. Y.: for general support . . . . . $ 5,000

American Institute of the City of New York, The, New York, N. Y.: to provide a special summer fellowship for a student at Harlem Hospital . . . . . $ 500

American University, The, Washington, D. C.: to provide initial support for the University's School of International Service $10,000

Boy Scouts of America, Greater New York Councils: contribution to capital development fund $10,000

Buffalo Bible Institute, Buffalo 24, N. Y.: for general support $ 5,000

California Institute of Technology, Pasadena, Calif.: for a series of special awards to finance research during the summer term by teaching assistants in chemistry at the Institute $20,000

Columbia University, New York 27, N. Y.: contributions for the following purposes: to purchase a relief globe for the University's Department of Geology; to finance analysis of "expectational" data in the field of consumer economics; and to finance a special course of lectures in contemporary physics for secondary-school teachers $27,500

Conservation Foundation, The, New York 16, N. Y.: contribution toward the general operational expenses of the Foundation . $15,000

Cornell University, Ithaca, N. Y.: to defray expenses of investigation of hospital-administration practices in certain European centers conducted by the Director of the Sloan Institute of Hospital Administration . . . . . $ 2,750

Council for the Advancement of Small Colleges, Inc., Washington 9, D. C.: for support of a special promotional project of the Council . . . . . $ 7,500

Council for Basic Education, Washington, D. C.: for general support $10,000

Emory and Henry College, Emory, Va.: special grant for the support of the College's science program $10,000

Fairleigh Dickinson University, Rutherford, N. J.: for the establishment and support of an Institute of Automatic Mechanisms . . . . . $ 9,500

Harvard College, President and Fellows of, Cambridge 38, Mass.: for the support of the Center for the Study of the History of Liberty in America $10,000

Herald Tribune Fresh Air Fund, New York 36, N. Y.: for the Fund's program to provide summer vacations for underprivileged children . . . . . $ 5,000

Human Resources Corporation, West Hempstead, N. Y.: to support a study of the effects of some forms of industrial activity on persons afflicted with coronary diseases $10,000

Illinois, University of, Urbana, Ill.: supplementary grant for support of research in organic chemistry by Professor Roger Adams and others . . . . . $ 2,000

Industrial Relations Counselors, Inc., New York 20, N. Y.: contribution to finance research on executive retirement problems and trends $10,000

Institute for American Strategy, Chicago 3, Ill.: contribution toward the cost of the Institute's annual conference on the problems of communism and American youth . . . . . $ 5,000

International House, New York 27, N. Y.: for general support $ 4,500

International Society for the Welfare of Cripples, New York 17, N. Y.: contribution for support of a congress of the Society, held in August 1960 . . . . . $ 1,000

Junior Achievement Incorporated, New York 36, N. Y.: contribution to development fund $10,000

Massachusetts Institute of Technology, Cambridge 39, Mass.: supplementary grant for fellowship program in meteorology of the University Committee on Atmospheric Research $10,000

Metropolitan Opera Association, Inc., New York 18, N. Y.: for the educational program of the Association . . . . . $ 2,500

National Academy of Sciences, Washington 25, D. C.: contribution to finance printing and distribution of booklet on mathematics and to finance distribution of a "mathematics career pamphlet" among secondary-school teachers and counselors in the United States . . . . . $ 8,500

National Council on Alcoholism, Inc., The, New York 29, N. Y.: for general support . . . . . $ 5,000

National Information Bureau, Inc., New York 17, N. Y.: annual contributions . . . . . $ 1,500

National Multiple Sclerosis Society, New York 10, N. Y.: for the support of the Society's program $10,000

National Recreation Association, New York 11, N. Y.: for a pilot project to experiment with recreational programs for ill and handicapped persons in Sussex County, N. J. . . . . $ 5,000

New York Academy of Medicine, The, New York, N. Y.: contribution to support activities of the Academy . . . . . $ 5,000

New York City USO Committee, New York 17, N. Y.: for the support of the metropolitan USO $10,000

New York University, New York 3, N. Y.: supplementary grant for the University's Institute of Economic Affairs, and for a research project in administrative management $12,500

Pennsylvania, University of, Graduate School of Medicine, Philadelphia 4, Pa.: to purchase camera equipment required for certain research projects in electromyography . . . . . $ 1,500

Phelps-Stokes Fund, The, New York 17, N. Y.: contribution to a fund for renovating and improving buildings at Capahosic, Va., acquired by the Robert R. Moton Memorial Foundation to provide a retreat for educational meetings and interracial conferences . . . . . $ 5,000

Sloan-Kettering Institute for Cancer Research, New York 21, N. Y.: for a special fellowship for two years . . . . . $ 8,000

Society for the Rehabilitation of the Facially Disfigured, Inc., New York 21, N. Y.: contribution to the Society's fund for the development of its proposed Institute for Reconstructive Plastic Surgery . . . . . $ 5,000

Trail Blazer Camps, New York 36, N. Y.: for the general support of the program of the donee $10,000

Tuberculosis Preventorium for Children, New York, N. Y.: contribution toward development fund for plant modernization $10,000

Tulane University, New Orleans 18, La.: to finance a special exchange program for faculty members and graduate students in mathematics . . . . . $ 1,000

United Negro College Fund, Inc., New York 22, N. Y.: annual contributions to the operating funds of the United Negro Colleges $20,000

United States Merchant Marine Academy, Memorial Chapel Fund, The, Kings Point, N. Y.: contribution toward the cost of furnishings for the Academy's newly constructed Merchant Marine Chapel . . . . . $ 5,000

Virginia, University of, Charlottesville, Va.: contribution for the support of the University's Department of Physics $10,000

Walter Winchell Foundation, Inc., New York 19, N. Y.: to assist in defraying the administrative costs of the Foundation . . $ 5,000

World University Service, New York 18, N. Y.: for scholarship support for Hungarian refugee students $10,000

Yale University, New Haven, Conn.: for a special scholarship for a student at the University . . . . . $ 8,000

History and General Policies of the Foundation

THE ALFRED P. SLOAN FOUNDATION was established as a non-profit corporation under the laws of the State of Delaware on August 2, 1934. Hence, the publication of this *Report* marks the 27th year of the Foundation's existence. Originally incorporated as the Sloan Foundation, its name was later changed to Alfred P. Sloan Foundation, Inc. A further amendment of its certificate of incorporation in 1958 established "Alfred P. Sloan Foundation" as the legal name.

The certificate of incorporation clearly imposes restrictions upon the activities of the Foundation. Operations are confined to those of a religious, charitable, scientific, literary, or educational nature; individuals having a personal interest in the affairs of the Foundation are forbidden to receive any benefit from its operations; and no activities designed to influence legislation are permitted.

Within this restricted area considerable discretion is allowed in applying the Foundation's resources to charitable and related purposes. Grants, as well as other expenditures, may be made either from current income or from the capital funds of the Foundation. The Foundation may enter into contracts, employ staff personnel, establish offices, and, in general, carry on all activities necessary or desirable properly to conduct its affairs.

On January 1, 1938 the Foundation's Trustees announced their intention to devote their organization's resources primarily to the field of American economic education and research. Adherence to this policy of committing resources to a single field continued until 1945 when a grant of major pro-

Alfred P. Sloan Laboratory of Mathematics and Physics, California Institute of Technology, dedicated December 1, 1960. Photograph by Harvey of Pasadena.

portions was made for research in cancer. Certain other fields have been added since 1952; and, in the future, the Foundation will undoubtedly continue to commit some of its funds to the newer fields as well as to those in which it has previously been active. These newer fields include promotion of research in pure science and in ophthalmology. They also include support of a fairly extensive undergraduate scholarship program in American colleges and universities. Other possible areas in which grants may be made in the future are currently under study.

To finance major commitments in two of the areas identified above, namely, cancer and pure science, special Funds have been established within the Foundation. The Funds are respectively: the General Motors Dealers Appreciation Fund for Cancer and Medical Research and the Fund for Basic Research in the Physical Sciences. As indicated earlier, the latter Fund will eventually be liquidated. Hence, grants for scientific research and grants in all other areas will continue to be derived from appropriations made from the income and capital accounts of the Foundation's General Fund.

The Foundation acts as a grant-making agency. Occasionally it may finance certain surveys and special investigations for its own information; but it conducts no educational work on its own account; nor does it engage directly in research. Its grants are made to assist specific projects carried on by accredited educational and charitable institutions, the great majority of which are located within the United States; or to support scholarships and fellowships in specific educational institutions.

Commitments for projects are normally made for a single year. They may, however, be made for a period of three years; and, in unusual cases, for an even longer period. At the end of each year, or at the end of the period for which the Foundation's commitment is to run, an accounting is made, either by the grantee or by the Foundation, and unused funds are returned to the Foundation. Requests for renewal are considered far enough in advance of the expiration date of an existing commitment to assure uninterrupted progress of activities if a renewal should be voted; or to permit of orderly liquidation if the Foundation's Trustees should decide not to renew.

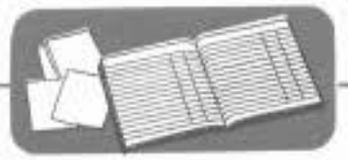
As suggested earlier, the Foundation believes that one of its functions is that of assuming the risks of new enterprises which, because of their experi-

mental character, would prove to be an unwarranted burden upon the regular administrative budgets of the sponsoring institutions. Hence, at the outset, the initial expenses of an acceptable project are absorbed and the necessary equipment is furnished. Although the Foundation makes no promise, implied or otherwise, to assume financial obligation for a longer period of time than is specified in its original commitment, the Trustees occasionally do vote to renew existing projects. This is done only after a careful examination of the project by appropriate Foundation staff members and consultants and after a recommendation to the Trustees that continuation of support for an additional period is clearly desirable.

RECOMMENDED PROCEDURE IN APPLYING FOR A GRANT-IN-AID

The Foundation welcomes constructive criticism and suggestions. Qualified institutions in sympathy with the ideas set forth herein should feel free to submit to the Foundation projects which fall within the scope of the Foundation's fields of activity and fit in with its various programs. Conscientious attention and careful thought are given to all such communications.

In the case of educational and research projects the procedure of applying for assistance is normally informal. The Foundation supplies no application forms. Specific projects which are to be submitted for consideration should first be definitely formulated in a brief memorandum and sent to the Foundation. The objectives of the project should be clearly stated, the proposed procedures outlined, and an estimate given of the probable expense involved. Routine is greatly facilitated by settling as much as possible by correspondence. Conferences and field investigations, demanding, as they do, a considerable amount of time and expense, properly come last in the course of negotiations, and, in any case, will not be undertaken unless it has first been established that the proposed project falls within an area in which the Foundation has made grants in the past and that the Foundation has indicated a serious interest in the proposal.



Financial Review

THE PRINCIPAL FUNDS OF THE FOUNDATION were increased during the two-year period ended December 31, 1960 by a gift of $23,627,620 from Mr. Alfred P. Sloan, Jr. The gift, which consisted of 1,270 shares of common stock of New Castle Corporation, was received in March 1959 and was valued as of the date of the gift. This brings the total of gifts and bequests made to the Foundation by Mr. and Mrs. Sloan to an amount in excess of $132,000,000.

The financial status of the Foundation at December 31, 1960 and 1958 is shown in a comparative Balance Sheet on page 147 of this *Report*. The values of the investments shown in that statement represent market quotation values at the respective dates. After provision for all commitments the remaining assets of the Foundation are distributed among the three Funds of the Foundation as follows:

	1960	1958
General Fund	$172,312,707	$152,128,045
General Motors Dealers Appreciation Fund	7,456,319	7,214,829
Fund for Basic Research in the Physical Sciences	4,231,096	6,035,417
Total	$184,000,122	$165,378,291

The origin of the General Motors Dealers Appreciation Fund was explained in the 1947-1948 Foundation *Report* and that of the Fund for Basic Research in the Physical Sciences was covered in the 1955-1956 *Report*.

The operations of the Foundation for the two-year periods ended December 31, 1960 and 1958 are shown in detail in the Income Account on pages 148-149. A summary of that statement showing the division of income and expenses among the various Funds for the two-year period ended December 31, 1960 follows:

	GENERAL FUND	GENERAL MOTORS DEALERS APPRECIATION FUND	FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES
Investment income	$13,959,513	$574,773	$ 453,031
Other income	59,297		82,830
Total income	$14,018,810	$574,773	$ 535,861
Grant payments	$ 9,959,591	$470,000	$2,070,604
Other expenses	912,357		225,018
Total disbursements	$10,871,948	$470,000	$2,295,622
Income (deficit) for the period	$ 3,146,862	$104,773	($1,759,761)

Commitments amounting to $18,481,980 were made during the two-year period ended December 31, 1960. The details of all grants for the two-year period under review are shown on pages 158 to 167 of this *Report*. A summary follows:

Grants unpaid at December 31, 1958	$10,167,819
Grants authorized 1959 and 1960	18,481,980
Total	$28,649,799
Payments made in 1959 and 1960	12,500,195
Grants unpaid December 31, 1960	$16,149,604

A third statement, Summary of Funds, is shown on pages 150-151 of this *Report*. This statement, adjusted to market quotation values, is in comparative form for the two-year periods ended December 31, 1960 and 1958. Changes in the Funds for the two-year period ended 1960 are summarized below:

	GENERAL FUND	GENERAL MOTORS DEALERS APPRECIATION FUND	FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES
Balance at beginning	$161,855,839	$7,214,829	$6,482,442
Gifts	23,627,620		
Realized appreciation in security values	12,770,793	991,826	386,576
Net income or (deficit)	3,146,862	104,773	(1,759,761)
(Decrease) in unrealized appreciation in security values	(13,668,903)	(575,109)	(428,061)
Total	$187,732,211	$7,736,319	$4,681,196
Commitments	15,419,504	280,000	450,100
Unallotted Funds	$172,312,707	$7,456,319	$4,231,096

HASKINS & SELLS
CERTIFIED PUBLIC ACCOUNTANTS

TWO BROADWAY
NEW YORK 4

March 1, 1961

ACCOUNTANTS' OPINION

ALFRED P. SLOAN FOUNDATION:

We have examined the balance sheet of Alfred P. Sloan Foundation as of December 31, 1960 and 1958 and the related income account and summary of funds adjusted to market quotation values for the two-year periods then ended, and the supplemental schedules of investments and of total grants and payments thereon. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In accordance with the policy of the Foundation, no effect has been given in the accompanying statements to income accrued but not due at December 31, 1960 and 1958.

In our opinion, with the explanation in the preceding paragraph, such financial statements and supplemental schedules present fairly the financial position of the Foundation at December 31, 1960 and 1958 and the results of its operations for the two-year periods then ended, in conformity with generally accepted accounting principles consistently applied.

HASKINS & SELLS

BALANCE SHEET
(INVESTMENTS AT MARKET QUOTATION VALUES)
DECEMBER 31, 1960 AND 1958

	1960	1958
ASSETS		
Cash	$ 1,527,485	$ 2,550,906
Investments:		
Fixed income securities	39,412,816	40,036,930
Marketable stocks	159,110,163	126,332,262
New Castle Corporation common stock, proportionate ownership of cash and underlying securities at market quotation value		6,483,012
Note receivable	90,000	150,000
Other	9,262	
TOTAL	$200,149,726	$175,553,110
FUNDS		
General Fund:		
Grants authorized but not due	$ 15,419,504	$ 9,727,794
Net assets	172,312,707	152,128,045
TOTAL	$187,732,211	$161,855,839
General Motors Dealers Appreciation Fund:		
Grants authorized but not due	$ 280,000	
Net assets	7,456,319	$ 7,214,829
TOTAL	$ 7,736,319	$ 7,214,829
Fund for Basic Research In the Physical Sciences:		
Grants authorized but not due	$ 450,100	$ 447,025
Net assets	4,231,096	6,035,417
TOTAL	$ 4,681,196	$ 6,482,442
TOTAL	$200,149,726	$175,553,110

NOTE 1: At December 31, 1960 the Foundation was committed for gifts for indefinite periods as follows:

To Sloan-Kettering Institute for Cancer Research, $400,000 per annum, cancelable on five years' notice. This obligation is included above in the amount of $2,000,000.

To Massachusetts Institute of Technology, Sloan Fellowship Project, $312,500 per annum, cancelable on three years' notice. This obligation is included above in the amount of $937,500.

To Dartmouth College $55,000 per annum, cancelable on three years' notice. This obligation is included above in the amount of $105,000.

NOTE 2: Personal property acquired by the Foundation from the estate of Mrs. Sloan and having an appraised value of $518,945 for estate tax purposes is not included in the above Balance Sheet. Upon the disposal of this property the proceeds will be recorded in the General Fund.

INCOME ACCOUNT

FOR THE TWO-YEAR PERIODS ENDED DECEMBER 31, 1960 AND 1958

	GENERAL FUND		GENERAL MOTORS DEALERS APPRECIATION FUND		FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES	
	1959-60	1957-58	1959-60	1957-58	1959-60	1957-58
Income:						
Investment income	$13,959,513	$11,042,792	$574,773	$487,406	$ 453,031	$ 451,002
Refunds of unexpended grants	58,349	46,054			82,830	15,581
Other	948	108,175				
Total	$14,018,810	$11,197,021	$574,773	$487,406	$ 535,861	$ 466,583
Expenditures:						
Grants paid	$ 9,959,591	$ 7,602,716	$470,000	$370,520	$2,070,604	$1,384,000
Administrative expenses	912,357	796,563			225,018	125,472
Maintenance of owned properties		94,684				
Total	$10,871,948	$ 8,493,963	$470,000	$370,520	$2,295,622	$1,509,472
Net income (deficit) for period	$ 3,146,862	$ 2,703,058	$104,773	$116,886	($1,759,761)	($1,042,889)

SUMMARY OF FUNDS

ADJUSTED TO MARKET QUOTATION VALUES
FOR THE TWO-YEAR PERIODS ENDED DECEMBER 31, 1960 AND 1958

	GENERAL FUND		GENERAL MOTORS DEALERS APPRECIATION FUND		FUND FOR BASIC RESEARCH IN THE PHYSICAL SCIENCES	
	1959-60	1957-58	1959-60	1957-58	1959-60	1957-58
Principal:						
Balance at beginning of period, book value	$121,795,564	$111,514,573	$3,501,293	$3,167,286	$6,825,460	$5,508,212
Net profit on disposals of securities	12,770,793	3,030,013	991,826	290,405	386,576	67,248
Gifts designated as principal	23,627,620	5,144,592				1,250,000
Contributions originally credited to income		2,106,386		43,602		
Balance at end of period, book value	$158,193,977	$121,795,564	$4,493,119	$3,501,293	$7,212,036	$6,825,460
Unrealized appreciation of proportionate share of investments	27,905,720	41,574,628	2,667,266	3,242,375	806,985	1,235,046
Balance at end of period, market value	$186,099,697	$163,370,187	$7,160,385	$6,743,668	$8,019,021	$8,060,506
Income:						
Balance (deficit) at beginning of period	($ 1,514,348)	($ 2,111,020)	$ 471,161	$ 397,877	($1,578,064)	($ 535,175)
Net income (deficit) for period	3,146,862	2,703,058	104,773	116,886	(1,759,761)	(1,042,889)
Transfer to principal of gifts originally credited to income		(2,106,386)		(43,602)		
Balance (deficit) at end of period	$ 1,632,514	($ 1,514,348)	$ 575,934	$ 471,161	($3,337,825)	($1,578,064)
Combined balances	$187,732,211	$161,855,839	$7,736,319	$7,214,829	$4,681,196	$6,482,442
Authorized grants, not due	15,419,504	9,727,794	280,000		450,100	447,025
UNALLOTTED FUNDS AT END OF PERIOD	$172,312,707	$152,128,045	$7,456,319	$7,214,829	$4,231,096	$6,035,417

INVESTMENTS
DECEMBER 31, 1960

	PRINCIPAL AMOUNT	MARKET QUOTATION VALUE
Fixed Income Securities:		
Obligations of United States Government:		
Treasury Bonds,		
3½%–2/15/90	$ 100,000	$ 93,500
2½%–12/15/67-72	200,000	177,500
2½%–6/15/64-69	325,000	296,969
Treasury Certificates of Indebtedness,		
3⅛%–8/1/61	3,220,000	3,233,080
4⅞%–2/15/61	1,200,000	1,204,124
Treasury Notes,		
5%–8/15/64	3,600,000	3,807,000
2⅝%–2/15/63	1,000,000	994,375
Obligations of United States Government Agencies:		
Federal Home Loan Bank, Consolidated Notes 3⅛%–4/15/63	2,300,000	2,295,688
Federal Land Banks, Consolidated Farm Loan Bonds 2¾%–5/1/63	2,000,000	1,982,500
Federal National Mortgage Association, Debenture 3¼%–3/11/63	6,000,000	6,011,250
Aluminum Company of Canada, Limited, Debenture 4½%–4/1/80	370,000	367,687
American Telephone & Telegraph Company, Debentures		
3⅞%–7/1/90	1,000,000	911,250
4⅝%–4/1/85	5,000,000	5,000,000
Appalachian Electric Power Company, First 4⅝%–3/1/87	250,000	238,750
Champion Paper & Fibre Company, Debenture 3¾%–7/15/81	245,000	213,150
The Columbia Gas System, Inc., Debenture "F" 3⅞%–4/1/81	500,000	448,125
Commonwealth Edison Company,		
First "R" 3½%–6/1/86	300,000	258,000
"S" 4¼%–3/1/87	250,000	240,000
Deere (John) Credit Co., Note 1/3/61	2,400,000	2,357,533

INVESTMENTS
DECEMBER 31, 1960
—CONTINUED—

	PRINCIPAL AMOUNT	MARKET QUOTATION VALUE
Fixed Income Securities *(continued)*:		
Duke Power Company, First and Refunding 3⅝%–5/1/86	$ 500,000	$ 457,500
Florida Power Corporation, First 3⅞%–7/1/86	300,000	270,000
General Motors Acceptance Corporation Debentures		
5%–3/15/81	1,500,000	1,560,000
5%–9/1/80	1,300,000	1,339,000
3⅞%–9/15/61	2,000,000	2,010,000
Illinois Bell Telephone Company, First 4¼%–3/1/88	300,000	283,500
Illinois Power Company, First 3¾%–7/1/86	500,000	447,500
Mountain States Telephone & Telegraph Company, Debenture 4⅜%–2/1/88	250,000	240,000
Northern Illinois Gas Company, First 3¾%–4/1/81	300,000	271,500
Potomac Electric Power Company,		
First 3⅝%–6/1/91	300,000	259,500
Debenture 4⅝%–2/15/82	350,000	340,375
Public Service Company of Oklahoma, First "F" 4¼%–2/1/87	250,000	235,000
Public Service Electric & Gas Company, Debenture 4⅝%–3/1/77	246,000	248,460
Southern California Edison Company, First and Refunding "G" 3⅝%–4/15/81	500,000	447,500
Union Electric Company, First 3¾%–7/1/86	500,000	442,500
Wisconsin Electric Power Company, First 3⅞%–4/15/86	500,000	450,000
Total Fixed Income Securities		$ 39,412,816

INVESTMENTS
DECEMBER 31, 1960
—CONTINUED—

	NUMBER OF SHARES	MARKET QUOTATION VALUE
Stocks—Common or Capital:		
Addressograph-Multigraph Corp.	9,180	$ 853,740
Allied Chemical Corporation	15,548	845,423
Aluminium Limited	38,000	1,216,000
Aluminum Company of America	5,750	395,312
American Cyanamid Company	14,908	687,631
American Telephone & Telegraph Company	106,200	11,376,675
Anaconda Company	10,000	455,000
Armco Steel Corporation	7,100	484,575
Bankers Trust Company	4,000	196,000
Bethlehem Steel Corporation	16,400	649,850
Caterpillar Tractor Company	32,400	988,200
Central and South West Corporation	25,000	1,006,250
The Chase Manhattan Bank (New York)	4,998	325,182
Clevite Corporation	16,900	931,613
Continental Illinois National Bank & Trust Co. of Chicago	5,500	638,000
Continental Insurance Company	26,300	1,485,950
Continental Oil Company	12,600	702,450
Corning Glass Works	10,050	1,798,950
Crown Zellerbach Corporation	20,000	1,080,000
Cutler-Hammer, Inc.	10,800	796,500
Dow Chemical Company	28,777	2,147,484
Dresdner Bank A.G.	3,200	261,600
DuPont (E.I.) de Nemours & Company	2,690	503,703
Eastman Kodak Company	15,600	1,743,300
Farbenfabriken Bayer A.G.	15,600	1,421,550
First National Bank of Boston	13,125	948,281
First National Bank of Chicago	7,750	566,719
First National City Bank of New York	7,140	557,366
Florida Power Corporation	32,000	1,216,000
General Electric Company	28,050	2,089,725
General Foods Corporation	21,800	1,545,075
General Motors Corporation	1,186,147	48,187,222
General Portland Cement Company	18,000	702,000

INVESTMENTS
DECEMBER 31, 1960
—CONTINUED—

	NUMBER OF SHARES	MARKET QUOTATION VALUE
Stocks—Common or Capital *(continued)*:		
Gillette Company	11,500	$ 1,019,188
Goodrich (B. F.) Company	13,500	708,750
Great American Insurance Co.	10,000	508,750
Gulf Oil Corporation	26,202	874,497
Halliburton Company	14,000	595,000
Harris Trust & Savings Bank (Chicago)	9,240	788,865
Hercules Powder Company	25,200	2,022,300
Household Finance Corporation	25,934	897,965
Idaho Power Company	16,000	856,000
Ingersoll-Rand Company	10,550	768,831
International Business Machines Corporation	10,200	6,048,600
International Nickel Company of Canada, Ltd.	43,000	2,531,625
Kennecott Copper Corporation	26,750	1,982,844
Lehigh Portland Cement Company	31,000	860,250
Merck & Co., Inc.	20,600	1,748,425
Morgan Guaranty Trust Company	20,514	2,118,071
National Distillers & Chemical Corporation	28,000	728,000
National Lead Company	9,250	786,250
National Steel Corporation	11,000	896,500
Northwest Bancorporation	15,000	510,000
Otis Elevator Company	19,800	1,178,100
Owens-Illinois Glass Company	16,100	1,501,325
Panhandle Eastern Pipe Line Company	18,200	905,450
Parke, Davis & Company	27,000	1,059,750
Phelps Dodge Corporation	11,500	537,625
Philips N.V. Gloeilampenfabrieken (1,000 florins)	1,554	4,977,486
Pittsburgh Plate Glass Company	100	6,975
The Procter & Gamble Company	20,500	2,813,625
Public Service Electric and Gas Company	27,000	1,198,125
Republic Natural Gas Co.	19,000	540,312
Republic Steel Corporation	13,500	739,125
Reynolds Metals Company	22,000	1,028,500
Royal Dutch Petroleum Company	29,784	982,872

INVESTMENTS
DECEMBER 31, 1960
—CONTINUED—

	NUMBER OF SHARES	MARKET QUOTATION VALUE
Stocks–Common or Capital *(continued)*:		
Schering Corporation	14,100	$ 786,075
Sears, Roebuck and Co.	44,750	2,533,969
Security First National Bank (Los Angeles)	6,900	521,812
Shell Oil Company	19,728	776,790
Smith Kline & French Laboratories	18,000	848,250
Socony Mobil Oil Company, Inc.	12,700	498,475
The Southern Company	26,000	1,248,000
Spencer Chemical Company	20,000	550,000
Standard Oil Company of California	6,300	303,187
Standard Oil Company (New Jersey)	48,947	2,019,064
Sunbeam Corporation	10,800	569,700
Texaco Inc.	25,833	2,205,538
Texas Utilities Company	12,300	1,013,212
Thompson Ramo Wooldridge, Inc.	17,400	1,200,600
Unilever N.V. (1,000 florins)	890	1,877,900
Union Bag-Camp Paper Corporation	14,366	484,852
Union Carbide Corporation	15,426	1,833,766
United States Gypsum Company	15,050	1,550,150
United States Steel Corporation	22,600	1,706,300
Virginia Electric & Power Company	24,270	1,301,479
Wells Fargo Bank American Trust Co. (San Francisco)	11,979	709,756
Westinghouse Electric Corporation	21,630	1,067,981
Total Stocks		$159,110,163

SUMMARY

Total Fixed Income Securities	$ 39,412,816
Total Stocks	159,110,163
TOTAL INVESTMENTS	$198,522,979

TOTAL GRANTS[1] AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1960

	UNPAID AT DECEMBER 31, 1958	AUTHORIZED 1959-60	PAYMENTS 1959-60	DUE AFTER DECEMBER 31, 1960
Aid Refugee Chinese Intellectuals, Inc.		$ 1,000	$ 1,000	
Akron, The University of		3,226	3,226	
Albion College	29,200	26,600	24,800	$ 31,000
American Assembly, The		110,000	110,000	
American Association for the Advancement of Science		10,000	10,000	
American Council for Emigrés in the Professions, Inc.		5,000	5,000	
American Institute of the City of New York, The		500	500	
American Law Institute, The		25,000	25,000	
American National Red Cross, The		70,000	70,000	
American University, The		20,000	20,000	
Amherst College	69,225	65,675	58,900	76,000
Antioch College	12,600	17,650	9,750	20,500
Associated Colleges of the Midwest		10,000	10,000	
Association of American Colleges		19,000	19,000	
Association of American Medical Colleges		50,000	25,000	25,000
Automotive Safety Foundation		33,000	33,000	
Barnard College		5,000	5,000	
Baylor University		27,125	27,125	
Bowdoin College	25,900	61,050	27,200	59,750
Boy Scouts of America, Greater New York Councils		10,000	10,000	
Brigham Hospital, Peter Bent	20,000		20,000	
Brigham Young University		12,000	12,000	
British Columbia, University of		13,800	13,800	
Brookings Institution, The		141,150	141,150	
Brown University	28,700	123,400	67,600	84,500
Buffalo Bible Institute		5,000	5,000	
California, University of	49,100	209,313	204,379	54,034
California Institute of Technology	1212,875	440,600	1,436,975	216,500
Carleton College	11,550	15,450	9,000	18,000
Carnegie Institute of Technology	129,375	113,600	125,975	117,000
Case Institute of Technology	86,000	216,462	208,462	94,000
Chicago, The University of	30,700	131,375	113,325	48,750
Colby College		12,500	12,500	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1960
—CONTINUED—

	UNPAID AT DECEMBER 31, 1958	AUTHORIZED 1959-60	PAYMENTS 1959-60	DUE AFTER DECEMBER 31, 1960
Colgate University	25,200	$ 44,650	$ 29,350	$ 40,500
Colorado, University of	9,430		9,430	
Columbia University	13,750	541,779	387,504	168,025
Conservation Foundation, The		15,000	15,000	
Cornell University	512,284*	1,356,400	531,859	1,336,825
Council for Basic Education		10,000	10,000	
Council for Financial Aid to Education, Inc.	300,000	37,500	187,500	150,000
Council for the Advancement of Science Writing, Inc.		60,000		60,000
Council for the Advancement of Small Colleges, Inc.		7,500	7,500	
Council on Foreign Relations, Inc.		12,500	12,500	
Dartmouth College	318,400	844,000	667,400	495,000
Davidson College		10,000	10,000	
Deafness Research Foundation, The		10,000	10,000	
Dillard University		7,500	7,500	
Duke University	7,500	36,250	33,750	10,000
Educational Services Incorporated		6,000	6,000	
Eisenhower Presidential Library Commission, The		20,000	20,000	
Emory and Henry College		10,000	10,000	
Emory University		19,222	12,972	6,250
Fairleigh Dickinson University		9,500	9,500	
Florida State University	6,325	13,800	13,225	6,900
Foreign Policy Association		10,000	10,000	
Foundation for Economic Education, Inc., The		15,000	15,000	
Freedom's Foundation at Valley Forge		15,000	15,000	
Gallaudet College		5,000	5,000	
George Washington University, The		9,500	9,500	
Georgia, University of	8,625	8,625	17,250	
Georgia Institute of Technology	22,900	10,400	21,600	11,700
Grinnell College		10,000	10,000	
Harding College		10,000	10,000	
Harvard University	58,750	411,265	289,140	180,875
Herald Tribune Fresh Air Fund		5,000	5,000	
Human Resources Corporation		10,000	10,000	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1960
—CONTINUED—

	UNPAID AT DECEMBER 31, 1958	AUTHORIZED 1959-60	PAYMENTS 1959-60	DUE AFTER DECEMBER 31, 1960
Illinois, University of	$ 18,500	$ 213,350	$ 192,545	$ 39,305
Illinois Institute of Technology		7,500	7,500	
Independent College Funds of America, Inc.		10,000	10,000	
Indiana University		13,800	13,800	
Industrial Relations Counselors, Inc.		10,000	10,000	
Institute for American Strategy		5,000	5,000	
Institute of International Education, Inc.		91,890	41,890	50,000
International House		4,500	4,500	
International Society for the Welfare of Cripples		1,000	1,000	
Iowa State College		29,900	21,850	8,050
Johns Hopkins University, The	115,750	135,200	155,875	95,075
Joint Council on Economic Education		10,000	10,000	
Junior Achievement Incorporated		10,000	10,000	
Knox College	11,200	22,800	18,000	16,000
Legal Aid Society, The		10,000	10,000	
Lehigh University	26,600	36,400	19,000	44,000
Lincoln Center for the Performing Arts, Inc.	400,000		200,000	200,000
Louisiana Polytechnic Institute	5,750		5,750	
Louisiana State University		14,375	6,900	7,475
Lovanium University		25,000	25,000	
Manhattan Eye, Ear and Throat Hospital		12,500	12,500	
Massachusetts Eye and Ear Infirmary		3,215	3,215	
Massachusetts Institute of Technology	1,804,750	6,432,725	2,281,800	5,955,675
Medical College of Virginia		7,300	7,300	
Memorial Hospital for Cancer and Allied Diseases	2,000,000			2,000,000
Menninger Foundation, The		190,000	130,000	60,000
Metropolitan Opera Association, Inc.		2,500	2,500	
Michigan, University of	18,425	131,355	103,290	46,490
Minnesota, University of	22,870	67,705	63,860	26,715
Mudd College, Harvey		10,000	10,000	
National Academy of Sciences		60,282	60,282	
National Bureau of Economic Research, Inc.		200,000		200,000
National Civil Service League		10,000	10,000	

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1960
—CONTINUED—

	UNPAID AT DECEMBER 31, 1958	AUTHORIZED 1959-60	PAYMENTS 1959-60	DUE AFTER DECEMBER 31, 1960
National Conference of State Legislative Leaders		$ 10,000	$ 10,000	
National Council on Alcoholism, Inc., The		5,000	5,000	
National Information Bureau, Inc.		1,500	1,500	
National Medical Fellowships, Inc.		120,000	60,000	$ 60,000
National Multiple Sclerosis Society		10,000	10,000	
National Recreation Association		5,000	5,000	
New School for Social Research		3,000	3,000	
New York Academy of Medicine, The		5,000	5,000	
New York Academy of Sciences, The		5,000	5,000	
New York City Board of Education		50,000	25,000	25,000
New York City USO Committee		10,000	10,000	
New York University	50,750	761,938	710,188	102,500
North Carolina, University of	11,500	17,950	20,475	8,975
Northwestern University	15,000	7,500	22,500	
Notre Dame, University of	23,800	57,800	25,600	56,000
Oberlin College	68,250	67,200	57,450	78,000
Occidental College	12,600	15,900	9,500	19,000
Ohio State University, The	14,150	32,900	25,700	21,350
Ophthalmological Foundation, Inc., The		27,000	27,000	
Oregon, University of	5,175	30,550	29,400	6,325
Oregon State College	16,100	10,198	26,298	
Pennsylvania, University of		19,000	19,000	
Phelps-Stokes Fund, The		5,000	5,000	
Polytechnic Institute of Brooklyn	8,125	17,500	16,875	8,750
Presbyterian Hospital		500,000		500,000
Princeton University	37,000	124,375	133,250	28,125
Purdue Research Foundation		122,368	122,368	
Purdue University	13,650	33,337	21,637	25,350
Recording for the Blind, Inc.		20,000	20,000	
Retina Foundation		10,000	10,000	
Rochester, University of	27,500	37,500	65,000	
Shimer College		5,000	5,000	
Sloan-Kettering Institute for Cancer Research	1,000,000	1,333,000	1,203,000	2,130,000

TOTAL GRANTS AND PAYMENTS THEREON
TWO YEARS ENDED DECEMBER 31, 1960
—CONTINUED—

	UNPAID AT DECEMBER 31, 1958	AUTHORIZED 1959-60	PAYMENTS 1959-60	DUE AFTER DECEMBER 31, 1960
Society for the Rehabilitation of the Facially Disfigured, Inc.		$ 5,000	$ 5,000	
South Carolina, University of		13,800	13,800	
Southern California, University of		19,625	19,625	
Southern Research Institute		225,000	75,000	$ 150,000
Stanford University	235,085	725,650	406,885	553,850
Syracuse University	42,500	50,000	92,500	
Texas, The University of		14,030	7,015	7,015
Toronto, University of		14,950	14,950	
Trail Blazer Camps		10,000	10,000	
Tuberculosis Preventorium for Children		10,000	10,000	
Tufts University		10,000	10,000	
Tulane University	2,500	7,250	6,625	3,125
United Negro College Fund, Inc.		20,000	20,000	
United States Merchant Marine Memorial Chapel Fund, The		5,000	5,000	
Vanderbilt University	21,700	24,800	15,500	31,000
Virginia, University of		46,800	35,300	11,500
Wabash College	31,000	29,000	26,000	34,000
Washington, University of	8,050	54,900	49,300	13,650
Washington University		36,354	36,354	
Wayne State University		11,500	11,500	
Whitman College	9,800	13,540	7,540	15,800
Williams College	76,050	68,000	62,050	82,000
Wills Eye Hospital		2,000		2,000
Winchell Foundation, Inc., Walter		5,000	5,000	
Wisconsin, University of	12,175	49,851	37,581	24,645
Woods Hole Oceanographic Institution		20,000	20,000	
World Federation for Mental Health		75,000		75,000
World University Service		10,000	10,000	
Yale University	13,125	50,250	46,625	16,750
TOTAL	[1]$167,819	$18,481,980	$12,500,195	$16,149,604

[1]Including grants unpaid at December 31, 1960.
*Cornell University—$7,000 of original 1958 opening balance canceled.