W. K. KELLOGG FOUNDATION
Battle Creek, Michigan

Report for 1960
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THE COMMUNITY COLLEGE seems the logical vehicle to supply educational opportunities for many who otherwise might not have access to education beyond high school or to technical training for a livelihood. Acting upon this belief, the Foundation has made grants to strengthen the professional services of the American Association of Junior Colleges, to support programs for education in community college administration in ten universities, and to carry forward in the community colleges of four states the development of basic two-year nursing programs. A participant in the Associate Degree Nursing Program of Pensacola, Florida, Junior College is here shown receiving instruction in the technique of bandaging.
The Human Element

The Human Element has been strong in the many programs assisted by
the Foundation since 1930. Whether the programs have aided a small com-
munity or affected to a degree the welfare of a region or even a nation, we
have, of necessity, "bet on the man." With traditional emphasis upon people,
the Foundation has, in effect, wagered the amounts of its grants on men or
women who have good ideas and show promise of ability to develop these
ideas for the betterment of mankind.

Looking back over three decades, we can recall many instances of out-
standing leaders who, in areas of health, education, or agriculture, spear-
headed the drive of people toward improved community living. These
leaders had the new ideas, the penetrating analyses, the revealing insights.
And with poetic justice, the wisdom, altruism, courage, and persistence
which have brought the ideas to fruition have also carried many of these
individuals to greater personal prominence. We remember, for example, the
secretary of a state professional association and editor of its magazine who,
aided by Foundation funds, subsequently built from a small beginning the
chief agency in the country for the improvement of educational journalism.
Later this leader headed one of the eight key centers of the Foundation-
supported and nation-wide program to improve public school administration
and the qualities he exhibited in all these assignments eventually took him to
the deanship of one of America's outstanding university schools of education.

A similar meteoric rise but in another professional field has been
observed in Latin America. Supporters of a medical school started a decade
ago determined that the new school should be modeled on the best American
patterns of medical education. To implement this determination, they
secured the aid of the Foundation in the form of fellowships permitting
nearly all original members of their brilliant young faculty to secure ad-
vanced level education in the United States. One of these Fellows, after
special training at a leading U.S. medical school, returned to his home
university to become head of a major department of the school of medicine
and later to serve as assistant dean of the medical school as well as medical
director of the university hospital. He has fostered the excellence of the teaching hospital and has had much to do with the fact that the school of medicine increasingly is recognized as one of the most progressive and better-organized institutions of its kind in Latin America. Because of this record of achievement, there was little surprise recently when this 37-year-old physician-educator and hospital director was named Minister of Health for his nation.

On such men, and many more that could be named, the Foundation is delighted to place its “bets.” Actually, “calculated risk” is a better term for, given men or women of marked qualities and strengths proven in preceding efforts, some of the element of chance is eliminated from a new endeavor. And the Foundation bets on institutions, too. There are instances where a need is felt quite urgently or an idea is put forth spontaneously by a community or segment of the population. Often it is then that we look to a core of strength — for example to the people who comprise the administration and staff of an institution that in the past has demonstrated real capacity to develop ideas of people. An institution is people and reflects their vision, ingenuity, and integrity. The superior institution has the ability to attract outstanding individuals, to retain these leaders and keep them stimulated. It is only natural, therefore, that when a problem is made known to the Foundation, the agency chosen for an attempt to solve the problem is usually from among institutions which previously have shown ability to make optimum use of pioneering opportunities. This, in no way, precludes our cooperation with relatively new or less prominent institutions, for there are always rising stars on the health, educational, or agricultural horizons and when the newcomers can attract good personnel, the kind of people needed to do the job, then the Foundation is glad to join with them on projects of real promise.

An example of a rising star on the educational horizon is the very young University of New South Wales. This Australian University, after evolving from a School of Technology, already has significant achievements to its credit including some pioneering advancements in the field of education for hospital administration. Using Foundation assistance for advanced level training of several of its faculty members and for an overseership and visiting professor and consultation service through a cooperative agreement with the University of Iowa, this program in four years has established administrative education on three levels — a graduate course leading to the master's degree, a correspondence-extension program, and a nine-month full-time extension course. Students come from various hospitals in Australia as well as a few from New Guinea, the Malay States, and India, and the widespread popularity and augmented scope of the education for hospital
administration program exemplify the axiom that "nothing succeeds like success."

Further concerning calculated risks, the Foundation occasionally will wager on a movement, a series of actions and events tending toward some definite, meritorious goal. In 1953, for instance, we received and complied with a request for aid from the Irish Countrywomen's Association, a fifty-year-old organization of 360 guilds and some 7,000 members from throughout Ireland. This feminine movement dedicated to "Better farming, better business, better living," was a very limited program until financial aid was forthcoming. In the years that have followed, there has been dramatic progress by the organization and the rural women of the "old country." Remarkable gains in membership, budget, and scope of its continuing education activities have occurred. Practical and cultural aspects of rural life are reflected in the course offerings which have multiplied and there is real thirst for learning among the membership. And as a sort of accolade, the nation's industry and the Irish Government time and again have indicated through tangible and intangible means approval of the movement. Such evidence indicates that the Foundation's "wager" has paid off in improving morale and efficiency of this feminine organization, and winnings from similar support to many other worthwhile movements could also be cited.

II

It is evident from the foregoing that we subscribe to the philosophy that active, vigorous participation in life demands the taking of calculated risks. In a parallel fashion, philanthropy must also be willing "to take the dice the way they fall." Whatever the field in which a foundation gives aid to the farseeing, the valiant, the curious, there are hazards and losses as well as impressive gains that can occur in the push toward new boundaries. Sometimes the promised land is reached. From other ventures which initially may have been equally promising, the results may be disappointing, even negative.

In the past, a few of the many countries of Latin America aided by the Kellogg Foundation had regimes which were none too stable — yet the stakes were great, for the welfare of the people justified a gamble to help improve health, education, and agriculture as keystones for their future. Grants in 1960 to South and Middle America comprised 10.3 per cent of the Foundation's total expenditures and in our view no area more fully merits assistance.

It has been two decades since the Foundation made its first grant in the countries to the south of us — and now an appraisal of the results from aid to agricultural, dental, educational, hospital, medical, nursing, and public health programs, as carried forward in one or more of these categories by
approximately forty universities and allied agencies, seems to justify a summation of: "Worthwhile, indeed!"

Today, more than ever before, one can rationalize the continuance and expansion of philanthropic assistance to Latin American nations. As this preface is being written, our country is threatened, at least orally, by a dictator only some eighty miles from our Southeastern Coast. We believe Castros will come and go periodically because from time to time there will be ideologies inimical to our own free enterprise system and the chief proponents of competing systems will make repeated efforts to get a foot in our door through any feasible arrangement with some country to the south of us.

We are confident, however, that only in rare instances will a Latin American nation give such an opportunity to an aggressor, for overshadowing occasional frictions between the United States and our South American neighbors is a bond of hemispheric solidarity and friendship. In a comparatively small way, but yet in as large a measure as we can, the Foundation hopes to strengthen this bond. One method will be through continuance of assistance which in two decades has enabled more than 800 "Fellows" to come to the United States for advanced level training in the several professions. These Fellows have proved to be "Ambassadors of Good Will," for, hailing from leadership echelons, their favorable impressions of the United States have exerted considerable influence upon their countrymen when they returned to their homes.

The recent Chilean earthquake emphasized the spirit of brotherhood that exists within our Hemisphere. American hearts went out to Chile in its hour of tragedy and U. S. Government and Red Cross aid was rushed to the shaken country. Long-term plans of aid are also being implemented by various U. S. organizations and agencies to the degree justified by their finances. For example, the Foundation's Latin American Director made a special trip to Concepcion shortly after the earthquake, to confer with officials of the University of Concepcion, an institution assisted by the Foundation for more than a decade. Learning what was most greatly needed to facilitate the resumption of operations of the Schools of Medicine, Dentistry, and Nursing, the information was subsequently used by the Foundation as a basis for a special grant-in-aid.

Other assistance to specific health, education, and agricultural programs in the " Continent of the Future" will be given or continued. Another type of aid was tendered in recent months when a Foundation grant of $278,000 to The Johns Hopkins University was made to help establish and underwrite for a ten-year period a program of career training and practical research in Latin American studies to be developed by the University's School of Advanced International Studies. Many people have become con-
vinced that no other area in the world is more important to the United States than is Latin America, nor is any other area more important to Latin Americans than our country.

The Foundation believes that Latin America truly is a land of "Tomorrow" not in the old sense of procrastination but in its obvious destiny in the affairs of the world. The old stereotype of tinkling guitars, serenades, and promenades around a plaza has been replaced by great and growing industry, startlingly modernistic architecture, and even traffic jams! Latin America shares a characteristic of the era; not only simple change but the accelerated rate at which it takes place. With such change inevitably come the multiplication and complication of many problems, including difficulties related to agriculture, education, and health. The Foundation will attempt to aid our neighbors to the south as they seek to alleviate their problems in these fields, for our philanthropic investments in Latin America — some of them initially recognized as calculated risks — have in most instances resulted in significant human dividends.

III

A highlight of fiscal 1960 was the decision of the Trustees to continue and expand Foundation aid to the community college movement, thought by many to be "one of the most significant educational developments of the century." Following previous grants for the strengthening of the professional services of the American Association of Junior Colleges, for a community college basic two-year program in nursing within four pilot states, the year saw commitments to ten universities for the establishment of educational programs specifically designed for community college administrators. The preservice and in-service aspects of this program should measurably improve the leadership for community colleges.

Another grant of particular interest during the year was that of approximately $750,000 toward an action program for economic and resource development within the Appalachian region of Kentucky. Two significant Foundation-aided studies were completed during the period — a National Survey of Dentistry by the American Council on Education, and a Study of Hospital and Medical Economics in the State of Michigan, expected to shed considerable light on hospital and medical prepayment insurance systems.

In fiscal 1960, a second Foundation grant in the interests of agricultural adjustment was made, this to North Carolina State College to help the people of the Southeast, both rural and urban, to understand and shape the social and economic adjustments necessary for agriculture in a growing economy. A similar effort in the region of influence of the Iowa Center for Agricultural Adjustment has been aided since 1958.
And to help meet the nation's medical manpower needs, a grant of more than one million dollars was made to the University of New Mexico for a school of the basic medical sciences. The establishment of several such schools — which embrace the first two years of the medical curriculum with contemplated transfer of students to four-year schools for clinical training — seems a practical method of increasing the supply of physicians. Consequently, the Foundation is considering the possibility of further assistance toward augmenting the number of schools of the basic medical sciences.

New appropriations during the year amounted to $7,561,060. The total expenditures of $8,373,405 were approximately $1,738,500 more than the Foundation's income of $6,634,871. Of the program payments, $6,156,947 was expended within the United States, while international programs in Australia, Canada, Europe, and Latin America involved expenditures of $1,833,164.

A heartfelt loss during the year was that from the death of Mr. Fred Sherriff, a Trustee of the Foundation over a long span of time. For many years, Mr. Sherriff as a successful businessman in Battle Creek, was a neighbor and particularly close friend of Mr. W. K. Kellogg and his service as a Trustee from 1931 to 1960 represented faithful fulfillment of a promise made to Mr. Kellogg to aid the organization so beloved by its Founder. Fred Sherriff was a Foundation Trustee of outstanding ability and loyalty and the legacy of memories and inspiration that he leaves to all his friends and colleagues is a rich one.

Each program area of the Foundation is represented by a chapter in this Report, with several of the divisional programs described in detail and all programs of a particular division listed in the concluding pages of each chapter. In addition, listings within the "Report of the Treasurer" at the back of the book give financial details with respect to each project aided during the year. Activities of the Latin American Division, which represent a cross section of the interests of the program divisions, are sketched within the chapters dealing with the respective professional areas.
AGRICULTURE

The Farmer Faces A Changing Economy

Despite unprecedented prosperity in most of the non-farm sectors of the economy, the farmer faces a serious economic situation. Technological developments have brought about such rapid progress in agricultural production that output has expanded faster than markets for many commodities. The resulting surpluses have depressed farm prices while, at the same time, inflationary forces have increased production costs. As a result, it is becoming increasingly difficult for the producers of food and fiber to farm profitably. Many owners of small farms who cannot mechanize advantageously are being forced out of agriculture. Moreover, numerous people on large farms are not sharing fully with other economic groups in the rising general levels of income and living.
Not only is there a serious economic imbalance between farming and non-farming sectors of the economy, but high divergence of development between agricultural regions often makes an area's problems of adjusting agriculture to the rest of the economy vastly different from those in another region of the nation.

Solutions to the complex of farm problems require facts. Research must speed its attack on all aspects of the over-all problem. New knowledge is needed to improve efficiency of production, processing, marketing, and consumption. New and improved crops and products must be developed. Markets must be expanded. Public policy alternatives must be studied along with their possible effects on both farm and urban families.

But research alone is not enough. Both new knowledge and existing knowledge not yet being applied need to be disseminated to potential users. In addition, technical and decision-making skills required to take advantage of research findings must be developed through educational programs.

The Foundation is assisting a number of agricultural programs in the United States, Western Europe, and Latin America. Such aid is concentrated on the application of scientific knowledge rather than upon its creation through basic research.

THE UNITED STATES

Problems of Agricultural Adjustment and Public Policy

In mid-1957, a Center for Agricultural and Economic Adjustment was established at Iowa State University to bring intensive research and education to bear on basic farm problems. The Center has a small core staff which functions as a catalyst toward the assembling of facts, the discovery of new knowledge, and the dissemination of this information on the economic and social aspects of agriculture.

As a research agency, the Center is functioning effectively and is gaining national recognition. Several research projects on current problems have been completed and forty-nine others are underway. They deal with agricultural adjustments to improve income and resource returns under conditions of economic development and parallel social adjustments. Other subjects being studied include industrial development and non-farm employment; demand prospects; and farm policies and programs.

As an educational agency, the Center is a primary source of comprehensive economic information on farm problems. Conferences, seminars, workshops, and publications have been the chief means of disseminating information. Nationally known scientists and educators from institutions in all regions of the country, editors representing some of the nation’s leading
agricultural and metropolitan publications, and farmers and community leaders have participated in the Center's educational program. Conference proceedings have been published and widely distributed. Scientific papers presented at the first conference sponsored by the Center have been published in book form under the title of Problems and Policies of American Agriculture.

The educational phase of the Iowa Center's efforts is being supported in large measure by the Foundation. Funds totaling $448,500 have been committed in support of this program over a five-year period which began in 1958.

The Southeast, an area with a high concentration of low-income families, naturally has adjustment problems which differ from those in the Midwest. Recognizing this fact the Foundation during the year committed $759,800 to North Carolina State College to aid in the establishment of a special agricultural education program dealing with problems peculiar to that part of the United States. This five-year program has an ultimate objective similar to that of the Iowa Center; namely, to help people, both
rural and urban, understand and shape the social and economic adjustments necessary in a growing economy.

Through the North Carolina program studies will be made of resource changes necessary to improve economic opportunities for people engaged in agriculture within the region. The research will cover the processes of agricultural adjustment and the effectiveness of public measures in raising farming incomes.

Seminars will be held for agricultural leaders of the South. A special one-year program of training for experienced employees in leadership positions of public agricultural agencies will be offered each year. Short courses will be given each summer for a number of carefully selected professional workers from North Carolina and neighboring states. Workshops and conferences will be held for workers engaged in research on adjustment and policy problems, and a special graduate program leading to the Ph.D. degree in Agricultural Adjustment and Public Policy is to be established.

Appalachian Resource Development

The southern Appalachian region is a well-known area of low income and inadequate resource development in America. In this region the plight of small, low-income farm operators and displaced miners, and the limited or nonexistent industrial employment opportunities are graphically in evidence. Sweeping technological and scientific changes in agriculture and in the extractive industries, such as mining and logging, together with the area's lagging industrial development, have left serious economic and social problems. Various agencies of the federal government have attempted to aid but many such efforts have not been focused on the primary causes of the problems and most have given insufficient motivation toward developing the area's many resources.

In the heart of this region of concentrated unemployment and under-employment are thirty counties of eastern Kentucky. A recent study of twenty-two of the thirty counties revealed that the area has lost seventeen per cent of its population in the last eight years, due largely to out-migration caused by lack of employment opportunities. Per capita income for the area in a recent year was $680, or about one-third of the national average. Farming is the occupation involving the most people, yet sixty per cent of the farms sold less than $250 worth of products per year. The average crop acreage in 1959 consisted of 1½ acres of bottomland per farm and eighteen acres of hill land that can be plowed only by horsedrawn equipment. The quality of livestock is poor and farm forests are generally ill-managed. Eighty-five per cent of the youths must find employment elsewhere or be satisfied with less-than-adequate employment intermixed with welfare pay-
North Carolina Agricultural Adjustment Program

A RURAL FAMILY, in planning for farm and home improvements, receives the counsel of an agricultural extension agent and a home economist. North Carolina State College is using Foundation funds in a five-year program to help people, both rural and urban, to understand and shape the social and economic adjustments necessary in a growing economy.

ments. The number in mining has decreased by fifty per cent in the past decade as a result of the mechanization of the mines.

Most school facilities are inadequate. The adult male population has completed on an average only 6.6 years in school. Health standards are low and malnutrition is evident among many school-age children. The number of people per physician is three times that of the national average.
Opportunities for significant improvement exist within the area. Moreover, it is believed that given an understanding and appreciation of these opportunities, along with technical and other assistance, relevant agencies, groups, and individuals will take appropriate action to realize these potentials. To this end a Foundation commitment of $754,000 to the University of Kentucky, for use over a seven-year period, will aid in the establishment and operation of an intensive action-oriented program of total resource development in the thirty-county area.

The primary feature of this Appalachian Resource Development project is to provide within the area technical and organizational skills selected and pointed toward the most likely opportunities for resource development and institutional changes. These skills will be provided by a specialist team employed by the University of Kentucky and under the direction of the Dean of the College of Agriculture and his administrative staff.

Working in cooperation with local citizen groups, existing organizations and agencies, the team will seek “pockets of opportunity” in such fields of endeavor as industrial location and development; community improvement and planning; career guidance and job placement; soil, water, and crop management; meat animal, poultry, and milk production; horticulture; forest management and utilization, and marketing and transportation. The ten professional workers comprising the team will attempt to guide the whole bloc of governmental services and the local leaders in the direction of positive solutions to the economic and social problems confronting the more than half a million residents in the area.

It is hoped that this effort will serve as a national demonstration of means to improve conditions in various areas of low-income and inadequate resource utilization, and to provide guidance for the establishment of state and national policy for aiding such regions which, over the nation, involve some five million people.

Several Programs Affect Nationwide Agriculture

Other programs currently aided by the Foundation and having nationwide significance are the National Agricultural Extension Center for Advanced Study with headquarters at the University of Wisconsin, the National Project in Agricultural Communications based on the campus of Michigan State University, and an Intensive Extension approach in Agriculture as aided by Foundation funds in Michigan and as evaluated through Foundation grants in Iowa, Michigan, North Carolina, New York, and Washington. The first-named program is discussed at some length in later pages while a listing of all aided agricultural programs will be found at the conclusion of this chapter.
Western Europe

Foundation aid in Western Europe has included fellowships to young agriculturalists and grants to rural youth organizations in several countries. The funds have assisted the establishment of two continuing education centers in Ireland and in Scotland, a rural sociology program and an Institute of Agricultural Engineering in Norway, and an International Institute for Land Reclamation and Improvement headquarted in Holland. During 1960, moneys were also granted by the Foundation to improve the effectiveness of extension work in Denmark, while in England support was given a program to provide technical training in agriculture, placement on farms, and follow-up supervision for British boys from urban areas.

Federation of Small Holders’ Associations in Jutland, Denmark

Farmers in Denmark, like those in other countries, are faced with rising production costs, increased cash outlays, and higher investments in land, buildings, and equipment. Many of the small holders, with farms of ten to fifty acres, have found it difficult to utilize technological knowledge and in some respects are being bypassed by the march of technology. Ninety-nine per cent of these persons own their farms but, in large number, the holdings are encumbered with mortgage loans.

The Jutland Federation of Small Holders’ Associations, with a membership of some 49,000, represents about one-fourth of all Danish farms. The organization is concerned with a wide range of technical, economic, and social problems and one of its primary functions is to provide advisory services for its members. It has a staff of ninety agricultural advisors, plus a number of assistants.

In early 1960 the Foundation committed $71,946 to the Federation to aid in four projects designed to strengthen its extension work. Through the first of these projects, demonstration farms with crop and livestock enterprises covering the entire farming industry in Jutland are being established for use in teaching improved practices in crops, livestock, and management.

In another project, special guidance is being given in the establishment of new holdings on approximately 500 acres of land which has been reclaimed from a moorland area. Through this program, which is expected to serve as a pattern for future reclamations, on-the-farm technical assistance and supervision will be provided in planning the arrangement of fields, cropping systems, fertilizer programs, livestock enterprises, home food supplies, arrangement of farmsteads, home and farm buildings, and in selecting and purchasing crops, livestock, farm machinery and equipment.
ACTIVITIES ASSISTED IN WESTERN EUROPE

Grants to Western Europe have been in the field of Agriculture. Since 1953 advanced level education within the U.S. has been made available through fellowships to 285 young European agricultural leaders. Aid also has been given to rural youth organizations, to continuing education centers, for extension work, for rural sociology and agricultural engineering programs, for boys' farm training, and for an International Institute for Land Reclamation and Land Improvement.

AT BELFAST, (above) a tour of programs aided in Europe brought the Foundation's President, Dr. Emory W. Morris, and its Agricultural Director, Dr. Glenwood L. Creech, in contact with the Lord Mayor, Alderman Robin Kinahan, and Mr. J. C. Baird, Assistant Secretary in the Irish Ministry. Shown left to right are Messrs. Morris, Kinahan, Creech, and Baird.

INTERNATIONAL Institute Team aids Land Reclamation in Turkey.

A SWEDISH FELLOW investigates diseases of plants.

NEW FOUNDATION-SUBSIDIZED BUILDING of the Edinburgh Centre of Rural Economy, a focal point for the farm interests of Scotland.
As an experiment, intensive instruction and guidance in planning and conducting the farm business and supervision of farm accountancy work are being provided in pilot areas. If this experiment proves to have merit, the farmers will be asked to defray its total cost after the first year.

The last of the Foundation-aided projects involves mechanization of the Federation's entire agricultural accounting system through the use of bookkeeping machines. It is expected that this will permit the issuance to farmers of the analysis of accounts every three months instead of every twelve months as is currently being done.

**Institute of Agricultural Engineering, Norway**

Norway has made significant strides in mechanizing its farms. For example, during the past two decades the number of tractors on farms increased from 4,000 to more than 50,000. Use of other farm machinery and equipment has increased at a corresponding rate.

Conditions of cultivation, however, are very difficult. The average agricultural area of the farm is approximately fifteen acres. Moreover, many farms are situated on steep hillsides. Owing to a short growing season, there is frequently not much time available for the various operations which have to be carried out. In view of the difficult natural conditions and the small size of farms, mechanization presents many problems of a technical, economic, and organizational nature. In addition, it imposes considerable demands with regard to the technical proficiency of those who are to use the machines.

Also contributing to the mechanization problem is the modest production of tractors and other farm equipment in Norway. Much of the machinery is imported from other countries and is designed for use under agricultural conditions differing from those of Norway.

In 1947, the Agricultural Research Council established an Institute of Agricultural Engineering at the Agricultural College of Norway "to try out and develop new types of machines and implements suitable for Norwegian conditions, and to undertake comparative tests of agricultural working methods and mechanical and electrical aids and equipment." The Institute was assigned responsibility for conducting experiments with agricultural machines and developing principles for their efficient use, and providing guidance to the equipment manufacturing industry in designing machinery for use in Norway.

The Institute is also responsible for providing education in agricultural engineering for the students at the College, and instruction to farmers in the selection, care, and use of machines.
THE HEADMASTER extends a welcoming hand as a new boy arrives at the hostel.

PARTICIPATION is a keynote and the lad has his classmates' attention.

BRITISH BOYS FOR BRITISH FARMS

To counteract the farm-to-city movement and to extend farming as a career to enterprising city boys, England's National Council of Young Men's Christian Associations has a "training scheme" to provide technical training in agriculture, placement on farms, and follow-up supervision for boys from urban areas. During the fiscal year, the Foundation made a $35,840 grant to assist in the extension and intensification of this thirty-year-old program. Shown are some of the activities of boys at Park Hill, in Derbyshire, one of three Centres for boys taking up farming as a career.

YOUNG, GROWING ANIMALS are a part of the fascination of farming to boys.
PRACTICAL WORK reinforces theoretical instruction, both under tutelage from experienced instructors.

A TRAINEE learns modern techniques, including the use of a milking machine.

"HOW DOES IT WORK?" . . . many of these city boys have a knack for farm mechanics.
In 1958 the Foundation committed $316,125 to aid in the construction and equipping of a facility for the Institute to increase the mechanization of Norwegian agriculture. Construction on the building started in 1959 and was expected to be completed in 1960.

**British Boys for British Farms Training Program**

England, like other countries, for many years has experienced a rapid drift of youth from the farms to the cities. As a result, some rural areas have been depleted of young leadership and farm labor, which loss has in turn adversely affected rural institutions such as schools, churches, and community government, as well as the agricultural economy.

In part to counteract this farm-to-city movement and even more to extend farming as a career to enterprising city boys who have a yearning for country life, the National Council of Young Men's Christian Associations initiated a special program in 1932. Through it town-reared boys have been helped to enter farming and to assume leadership responsibilities in rural institutions. For nearly three decades, in cooperation first with the Ministry of Labor and, since 1946, with the Ministry of Agriculture, Fisheries and Food, the Council has provided technical training in agriculture, placement on farms, and follow-up supervision for British boys from urban areas.

An eight-week residential course, including such subjects as animal and crop husbandry, farm shop and farm management, and training in farm practice, is offered in each of three training centers strategically located to serve all areas of the country. Theoretical instruction is provided by lecturers in the farm institutes and by county agricultural advisers, and practical training is given by selected farmers on nearby farms. Character development is stressed throughout the training period. Upon completion of the training each boy is placed on a farm as an employee with precautions taken that the accommodation is satisfactory and that wages are paid in accordance with the standard rates. Each youth is expected to remain in agriculture a minimum of twelve months and he receives periodic follow-up and supervisory visits. In addition, summer schools and week-end conferences, as well as an annual conference, are held for “former boys.”

More than 16,000 youths have completed the training and have been placed in employment on farms. Many “former boys” now own their own farms or have become farm managers. Others have obtained positions in the administrative phases of the agricultural industry. An encouraging number with special abilities have gone on to institutes, colleges, and universities for further agricultural education. Most of the remainder have become good workmen in agriculture.

Despite the large number who have participated in the program, there
is an increasing demand for the training. Moreover, improved farm technology has created a need for more highly trained persons in farming which in turn has made it necessary to broaden and intensify the program and to extend the follow-up, on-the-farm supervision from eighteen months to thirty-six months. To assist in the extension and intensification, the Foundation during the year committed $35,840 to the National Council of Y.M.C.As. for use over a four-year period.

**Latin America**

For a variety of reasons, agriculture in parts of Latin America has failed to develop adequately. In many areas, the semi-feudal system, which continued from colonial times up to very recently, was wasteful of both human and natural resources. There was insufficient concern with improving efficiency and productivity. Consequently, agriculture in those areas has not kept up with the growing economic requirements of the population.

Modern Latin America has recognized an imperative need to rectify this situation. Extensive programs have been undertaken to establish more efficient and more varied production. Idle land is being put to use and new crops are being introduced where they can help strengthen a national economy. In the forefront of these efforts has been the development of education as a means to mitigate the acute shortage of trained personnel for the vast process of modernization of Agriculture. The Foundation is contributing to this process in the Republic of Colombia through assistance for the two agricultural schools of the University of Colombia, in Palmira and Medellín. Beginning in 1955, this assistance was in support of the technical aid extended by Michigan State University in alliance with the International Cooperation Administration. In 1959, when ICA participation in the program terminated, the Foundation made a three-year commitment to permit Michigan State University to continue its relationship with these two schools of the University of Colombia.

The Foundation is providing funds for a program that includes the assignment of visiting United States professors to Colombia, in-service training of Colombian personnel, fellowships for key faculty members to study in the United States, and scholarships for students attending short courses given at Palmira and Medellín. The first visiting professors, who began their assignment early in 1960, were in the fields of agricultural economics, agricultural engineering, and forest utilization. They have contributed to the general development of the curriculum in both schools, and in the Forestry Institute attached to the school in Medellín.

In 1960 the Foundation made a supplementary grant to finance a broad survey of higher agricultural education in Colombia. The study is sponsored jointly by the University of Colombia and Michigan State University. The
THE NATIONAL PROJECT in Agricultural Communications has been aided by the Foundation since 1953 in its efforts to improve the use of modern media in the communications to farmers by the field’s information workers. The Project has even more than national scope as illustrated by this training conference, one of several designed to adapt NPAC's techniques for the agricultural communications of Latin American countries.

survey’s seven-man commission was comprised of outstanding specialists from Colombia and the United States, and was appointed by the Rector of the University of Colombia.

In fulfillment of its purpose, the commission studied the objectives of agricultural education in Colombia and their relation to teaching, research, extension, and production for the present and future requirements of the national economy. The conclusions drawn from the survey will undoubtedly be of long-lasting usefulness in helping to guide the over-all improvement of agricultural research and education as an essential factor in advancing the welfare of the people of Colombia.
A MEANS OF SHARPENING AGRICULTURAL LEADERSHIP

The purpose of the Cooperative Extension Service, inferred by the organization's name, is to extend agricultural education and home economics information to all farmers. Since it began in 1914, the Service has become the most far-ranging system of adult education and rural youth training that any nation has developed. Consequently, today's farmer, in making his many decisions, has access to the latest and best knowledge available.

The farmers in each community, the county extension agents, the state agricultural colleges, and the Federal Extension Service have carried forward a genuine partnership, one cooperatively agreed upon and developed. There is general satisfaction with the vital role of the more than 14,000 extension employees affecting the social and economic welfare of millions of people. However, recent years have seen Agriculture become a highly complicated enterprise and the necessity for Extension to counsel the farmer has heightened. There are many agencies now dealing with farm problems. The communications and public relations job has become heavier. The number of extension employees has greatly increased.

Consequently, Extension's line organization, composed of county directors, state supervisors and directors, must exert even more effective leadership than formerly. For the most part, these officials have come up from the ranks of county extension or home economics agents, with little or no formal training in administration. Yet their administrative responsibilities are many and enlarging — personnel recruitment and selection; training and management; program development; policy determination and follow-through; evaluation of efforts; funds and financing; relationships between the Land-Grant Institutions and county operating groups; reporting to officials and the public. This partial listing of duties makes obvious that if the extension administrator is to exercise essential and increasingly skilled leadership, he must have adequate opportunities for greater knowledge of current theory and principles of administration, communication, and organization and he must have aid in developing more administrative skills and executive finesse.

A Center for Study of Administration

To meet this challenge, The National Agricultural Extension Center for Advanced Study was established at Madison, Wisconsin, in May of 1955, the outgrowth of action taken by the Senate of the American Association of Land-Grant Colleges and State Universities and the University of Wisconsin Board of Regents. The Foundation granted $1,206,000 to the University to be used over a seven-year period to support this Center in its purpose —

"— to train extension administrators and potential administrators
and to identify and seek solutions to problems limiting the effectiveness of the various agricultural extension services."

The efforts of the Center, now five years old, have been premised on a belief that administration is gradually becoming a science and that there is a universality of problems inherent in directing and coordinating the efforts of any group of individuals toward a common goal. Psychological and sociological findings are placing these problems into perspective and providing administrators with knowledge and techniques to meet them.

**Counseling Permits “Tailor-Made” Instruction**

Under supervision of Wisconsin's well-known School of Agriculture and the University's excellent Graduate School, the Center is offering to extension administrators from many states courses developed by various departments of the University as well as special courses which are led by the staff of the Center. A sampling of the several scores of subjects indicates wide ramification: "Administration in the Cooperative Extension Service;" "Outlines of Land Economics;" "Advanced Farm Management;" "Principles of Adult Education;" "Rural Communications Media;" "Principles of Business Organization;" "Personnel Management;" "Current Issues in Family Living;" "Seminar in Politics and Public Policy;" "Psychology of Human Adjustment;" "Methods of Rural Social Research;" etc. However, each student is provided with a program to fit his particular needs and background. Interdepartmental and interdisciplinary in nature, the program of course work and research charted by the student of administration, in consultation with a faculty committee and the Graduate School, is much more flexible than under traditional majors and minors. A complete analysis of the work history of the student, the job responsibilities he has had, his career goals, makes it practical to "tailor-make" a program for the individual candidate. If, for instance, he has a special interest in personnel management or social policy, he can move particularly in that direction.

As further illustration, a student with a master's degree in genetics as applied to dairy cattle was found to have had little acquaintance with the social sciences and with educational principles and theory. He had had no work in political science or personnel management. Center officials counseled: "These are the kinds of courses that appear to give a great degree of insight into the problems an administrator faces and they help to build foundations for your advanced administration program." And rather than a requirement that he take Course No. 205 or No. 208, he was given opportunities for elective courses and supplemental reading to get the required background information.

So whatever the personal reasons behind the students' application for entrance into the Center — "To qualify for increased responsibility" . . .
"Qualify for a new type of work" . . . "Qualify for a job with Extension in another state" . . . "Salary increases" . . . "A personal need for formal training" . . . "To satisfy administrative pressure or requirements" . . . "An opportunity for studies outside of professional fields—literature, foreign languages, and the like" . . . the Center's program developed in its initial five years has been both flexible and complete.

**Extension Response Has Been Enthusiastic**

Since its establishment was in response to a demand accumulating through the years and had been considered by the leaders of the field for some time, it is not surprising that the Center has struck a popular chord among extension people. The extension services in forty-one of the fifty states and Puerto Rico have made it possible for key employees to undertake graduate training in administration leading either to the master's or the Ph.D. degree. Estimates have been made that the state extension services are now contributing from $40,000 to $50,000 annually in the form of partial salaries and leaves-of-absence to their representatives participating in Wisconsin's advanced extension study.

The intensive nature of the program dictates an enrollment restriction to a maximum of about thirty students a year, of which about 25 per cent are women students of Home Economics Extension. Practically all the students are on fellowships, in some amount and at some of the time, during their stay at the Center. Students often get full- or part-salary for a certain period, while Kellogg funds supply the financial aid that the states are not in a position to give. There are also scholarships from such organizations as the National Cotton Council, the Farm Foundation, and the Fund for Adult Education.

To attain a fellowship for study at the Center, a person must be currently employed in Extension administration, supervision, or training, and be strongly recommended for graduate study by the dean of his college of agriculture and by the Director of the Cooperative Extension Service. He must be granted a leave of absence by his institution or agency and must be qualified for admittance to the Graduate School of the University of Wisconsin. The screening at the state level, with additional scrutiny by the Wisconsin Graduate School, results in a highly selected group of Fellows with interests ranging through almost the entire gamut of extension administration. The fellowships are granted for a twelve-month period, for a semester, or for an eight-week summer session.

Up to October, 1960, seventy-two men and twenty-eight women have been accepted by the Center as Fellows. As of June, 1960, forty-four Master of Science degrees and thirty-one Ph.D. degrees in Extension Administration had been awarded, and six M.S. degree and twenty-four Ph.D. candi-
At top — A Center Fellow meets with his Ph.D. Committee to plan his graduate study program. Shown to left of Chart is Dr. Robert C. Clark, Center Director.

At bottom—Map shows distribution by states of graduate students who have participated in the program of the Center since it opened.
dates were currently enrolled for the fall semester.

The students have a median age of thirty-nine years, with the age extremes being twenty-five years and fifty-nine years. In a typical year, these men and women come from about thirty states, so that there is opportunity for the exchange of regional and state views in the shop-talk of the informal non-credit seminar which meets twice each month. An important auxiliary to the formal courses, this seminar brings in prominent agricultural experts, conducts question forums, encourages review of research findings by the graduate students, and holds discussions of administrative policy matters. The "Friday Evening Bachelor's Club" also combines shop-talk with sociality and fellowship.

Noticeable at the Center is an eager attitude conducive to learning, as attested by statements made by former students during recent interviews:

"The training gave me specific preparation, so that when an opening in extension administration occurred, I was ready" . . . "More than ever before, I understand the importance of employing democratic procedures in working with my associates and lay people" . . . "Through the administration core program, I have learned techniques to be used in achieving balance and control. Acquaintance with budgeting principles, their application to program planning, and the use of a scientific approach to problem solving, will simplify my task back home" . . . "The across-disciplines program gives the student the option of choosing course work along the lines of his greatest need. The opportunity to concentrate one's time upon the field of greatest interest has been immensely valuable" . . . "The Center in the environment of a great graduate school offers outstanding opportunities for personal and professional growth. Mere association with such a versatile staff and students representing so many and such varied backgrounds stimulates the desire to study" . . . "I believe the benefit of the Center's program to the total effort of the Cooperative Extension Service throughout the U.S. will be felt for years to come."

Promotions Result from Advanced Study

Quoting Wisconsin's Dean of Home Economics:

"As for advanced administration study making for opportunities, the doors are wide open. In a recent instance, half a dozen states have been after a person with a Ph.D. California, Illinois, New York, and Wisconsin had vacancies for state leaders in Home Economics. Anyone who gets a Ph.D. at the Center has chances for top leadership in extension in the country. There are also outlets in the Federal Extension Service."

Of the graduates from the 1958-59 academic year, twenty-seven have changed jobs within Extension and twenty-six of these changes represent
promotions. Examples of such changes in positions include: Promotion from State 4-H Club Leader to Assistant Director of the state extension service; from Program Analyst to State Program Leader; from State 4-H Club Agent to Program Leader for the Western States 4-H and Youth Work; from District 4-H Club Specialist to State Leader; from Farm Advisor to Specialist in Program Analysis; from District Extension Supervisor to State Leader of Extension Training and Assistant Professor of Agricultural Extension; and from Assistant to the Director to Associate Director.

Research and Communications Activities

In addition to the graduate training of extension administrators, other basic activities of the Center include research, and assisting in planning, staffing, and conducting workshops, conferences, and seminars as in-service education throughout the nation for extension administrators.

Besides guiding student studies on extension administrative and training problems, the Center staff conducts its own research. The investigations by students deal with broad areas of extension organization, policies, and finance; extension programs and personnel training; state and county advisory groups; 4-H Club work; and the functioning of specialists and supervisors. During 1959-60, Center staff research efforts were intensified and included the development of three comprehensive projects as a part of the research program of the University of Wisconsin Agricultural Experiment Station. Another previous major effort concerned a study of "The Organization and Operation of Extension Marketing Programs in Selected States." This was authorized through contracts with the Federal Extension Service, and Center personnel also made detailed personal interpretation of the findings to meetings of extension administrators throughout the nation.

Primary efforts of the Center in the area of in-service education have been in connection with the sponsorship of Seminars in Extension Supervision for each of the four Extension Regions in the United States, and for two National Cooperative Extension Administrative Seminars for top level administrators. The Center staff also participated in approximately fifty different national, regional, and state functions during a recent year.

Planning Continuance of the Center

With the Foundation grant to the Center due to terminate in 1962, officials and agencies most concerned with the Center’s program of advanced study in extension are wrestling with a problem of its continuance. The University intends to carry on the courses but it does not seem practical for a state institution to provide fellowships to out-of-state students or to finance workshops and special training meetings in other sections of the country. The American Association of Land-Grant Colleges and State Univer-
AGRICULTURE

sities — which officially names the members of the National Advisory Committee to the Center — is deeply desirous of finding means to continue the great majority of the facets of the Center’s program, and similar sentiment is shared by many leaders in the state and federal extension services. The Center’s National Advisory Committee has named a sub-committee to explore means to carry on the total Center effort. Optimism for the continuance of the Center program in its full implication is engendered by such statements as the following made by Mr. C. M. Ferguson, Administrator of the Federal Extension Service:

“The opportunity made possible by the National Agricultural Center for Advanced Study at the University of Wisconsin, is having a marked influence on extension administration, supervision, program development and execution throughout the country. The Center has not only provided graduate work of a high caliber for many who have demonstrated a potential for development in this field, but also through workshops and conferences, much has been done to sharpen the tools of administration which are currently in the hands of those who have this responsibility.”

Dr. W. E. Morgan, President of Colorado State University and Chairman of the National Advisory Committee, similarly values the Center:

“The whole concept of this Center is one of picking the upcoming leaders, tomorrow’s crop of administrators, and furnishing them with the very best of training, for they in a few years will be giving guidance to the extension effort. The Center has performed and must continue to perform a top-level educational function invaluable to the nation’s extension services and, therefore, to the farmers of America.”

A Comprehensive Evaluation of the Center

Professor Dean A. Worcester, formerly Chairman of the Department of Educational Psychology and Measurements, University of Nebraska, and currently Visiting Professor in Education, University of Wisconsin, was employed half-time in the Center, starting in September, 1959, to conduct an objective evaluation of the entire program. A preliminary report on the evaluation was published by the Center last July, and the final evaluation is expected to be completed by February, 1961.

The study has revealed that University of Wisconsin officials, state directors of agricultural extension, and the Federal Extension Service were in general agreement that those who received advanced training at the Center were more competent, more self-confident, and had greater initiative and far better understanding of their problems and the problems of others.
than they had had previously. Sixty-six former Fellows indicated that their advancement had been significantly influenced by the administrative training at the Center.

Professor Worcester's evaluation was generally very favorable to most aspects of the Center's program and facilities. He did suggest a needed strengthening in the Fellow's knowledge and training in the use of research methods, techniques of evaluation, statistical interpretations, and the like. Also indicated was a need for more knowledge about the psychology of learning and human relationships.

The wide range of possibilities at the University of Wisconsin for general education and cultural opportunities was strongly approved and a suggestion made that students' time scheduling allow for more exposure to these opportunities. There also should be, according to the study, "a more careful method of determining ability before accepting a person as a Fellow, and greater academic background might be one screening requisite." However, the evaluation took recognition that in spite of the fact that Fellows had varying degrees of preparation, nearly all participants at the Center have shown high motivation and great enthusiasm.

The preliminary report discusses in detail a number of the major findings with respect to Staff, Staff Activities, Curriculum, Characteristics of Fellows, Research and Dissertations by Fellows, and includes a listing of present positions held by persons whose advancements have followed administrative training at the Center. Space limitations here preclude even a sketching of such major findings, but the substance of the evaluation may be obtained by writing the Center at the University of Wisconsin.

PROGRAMS CURRENTLY BEING ASSISTED
IN AGRICULTURE
EUROPE

AGRICULTURAL COLLEGE OF NORWAY, Aas
To provide initial support for the establishment of a section of rural sociology in the College's Department of Farm Management and Agricultural Economics.

AGRICULTURAL RESEARCH COUNCIL OF GREAT BRITAIN, London
To assist in purchasing research equipment and materials.

DANISH STATE BOARD OF PLANT CULTURE, Copenhagen
For the purchase of laboratory equipment for use by a former Fellow provided study in the U.S. by the Foundation.
Edinburgh Centre of Rural Economy, Scotland

For assistance toward the construction and equipping of a facility for continuing education.

Federation of Small Holders' Associations in Jutland, Denmark

To assist in improving the effectiveness of agricultural extension work.

Fellowships, Ministry of Agriculture, Denmark, Copenhagen; Federal Ministry for Food, Agriculture and Forestry, West Germany, Bonn; Agricultural Research Council of Great Britain, London; English and Welsh Universities with Agricultural Faculties, London; Ministry of Agriculture, Fisheries, and Food of England and Wales, London; Ministry of Agriculture, Northern Ireland, Belfast; Department of Agriculture, Republic of Ireland, Dublin; State Agricultural University, The Netherlands, Wageningen; Agricultural Research Council, Norway, Oslo; Department of Agriculture and Fisheries for Scotland, Edinburgh; Royal Swedish Academy of Agriculture and Forestry, Stockholm

To help improve agricultural education and practices in Europe by providing opportunities for study in the United States for qualified faculty, extension, and research personnel of selected European agencies.

Institute of Agricultural Engineering, Aas, Norway

To aid in constructing and equipping a teaching and research institute to facilitate mechanization of Norwegian agriculture.

International Institute for Land Reclamation and Improvement, Wageningen, The Netherlands

To assist in establishing, operating, and housing an Institute for the world-wide dissemination of information relative to land reclamation and improvement.

Irish Countrywomen's Association, Dublin

To help improve rural life through establishment of a residential center and educational program for the countrywomen of Ireland.


To assist in a program designed to provide technical training in agriculture, placement on farms, and follow-up supervision for British boys from urban areas.

University of Dublin, Trinity College, Ireland

To help improve Irish agriculture through aid in the development of a demonstration-experimental farm, including a center with facilities for research work, student accommodation, and extension courses.

Young Farmers' Clubs, Young Farmers' Clubs of England and Wales, London; Scottish Association of Young Farmers' Clubs, Edinburgh; Young Farmers' Clubs of the Isle of Man, Knockaloe, Peel; Young Farmers' Clubs of Ulster, Belfast; Young Farmers' Clubs of Ireland, Athy, Co. Kildare

To help improve rural life and agriculture of various countries through aid for expanded rural youth group programs and activities.

Fellowship for a U.S. study experience for the Director of the Junior Section of Young Farmers' Clubs of Ireland.
LATIN AMERICA

INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES, Turrialba, Costa Rica
To assist in the preparation of teaching materials in Spanish and Portuguese for use in Latin American schools of agriculture.

NATIONAL UNIVERSITY OF COLOMBIA, Palmira and Medellin
To foster the continuing development of the Schools of Agriculture and the Forestry Institute at Palmira and Medellin, through funds for equipment and supplies, building improvements, and through faculty training and counseling by visiting professors.

UNITED STATES

APPALACHIAN RESOURCE DEVELOPMENT, University of Kentucky, Lexington
To assist in the over-all economic and institutional development of a thirty-county area in Eastern Kentucky through employment of technical and organizational skills to improve conditions in the area and to serve as a demonstration program for other areas of inadequate resource development.

FUND FOR THE INTERNATIONAL CONFERENCE OF AGRICULTURAL ECONOMISTS, INC., Secretariat at Chicago, Illinois
To provide transitional assistance for the Conference’s secretariat, and domestic and Latin American fellowships for attendance at the Conferences.

INTENSIVE EXTENSION SERVICE, Cornell University, Ithaca, New York; Iowa State University, Ames; North Carolina State College, Raleigh; Washington State University, Pullman
To evaluate the effectiveness of programs to develop improved and more intensive techniques for disseminating agricultural information and encouraging its use by farmers.

MICHIGAN STATE UNIVERSITY, East Lansing
To aid the National Project in Agricultural Communications to assist administrators and information workers in Land-Grant institutions and the United States Department of Agriculture in using the media of communications more effectively.
To provide assistance in an evaluation of a proposed program for the National Project in Agricultural Communications.

PROBLEMS IN AGRICULTURAL ADJUSTMENT, Iowa State University, Ames; North Carolina State College, Raleigh
To provide assistance in programs designed to discover, evaluate, and disseminate information pertaining to problems in agricultural adjustment and public policies.

UNIVERSITY OF WISCONSIN, Madison
For establishment of a National Agricultural Extension Center for Advanced Study to augment the effectiveness of the extension services by further training of agricultural extension administrators.
Better Education: A Major Goal

The improvement of the quality of education has emerged during the past few years as a major goal for many Americans. Criticisms and subsequent studies of organization, administration, content, and teaching methods have led to the general conclusion that the structure and philosophy of our educational system are sound and that its diversity is desirable and in accord with American tradition. But within this framework, which seems to need no radical changes, great improvement of quality is possible.

This desire to improve education comes at a time of extraordinary population expansion and of rising costs. Can we emphasize quality and at the same time build additional classrooms, employ more teachers, and pay higher prices for equipment and supplies?
answer will be “yes” only by ingenious and rapid application of knowledge, only by immediate use of those research findings which are relevant to the problem at hand, only by a willingness to give to education a larger proportion of the nation’s income. The dilemma of quality parallelizing expansion is in itself the great challenge to educational leadership during the ’60s.

Leadership in education has for many years been a major interest of the Foundation. This interest is revealed in Foundation-supported projects involving the preparation of leaders for (1) community colleges, (2) continuing education, and (3) elementary and secondary schools.

TRAINING LEADERS FOR COMMUNITY COLLEGES

A program assisted by the Kellogg Foundation in the field of administration, which was inaugurated during 1960, concerns leadership for community colleges.

WHEN SCHOOL OPENED in mid-September at the Kellogg Community College of Battle Creek, two of the five buildings subsidized by the Foundation were virtually complete. However, neither the pictured Administration-Classroom Building nor its sister Science Building had landscaping and only temporary asphalt walks were available between buildings. Under construction are a Library, a Student Center-Auditorium, and a Power Plant. The College attracted nearly six hundred full-time students and approximately four hundred night school students for its opening on a new campus and by 1965 expects one thousand full-time students. Both arts and sciences and technical curricula tailored to community needs are offered.
OFFICERS of the American Association of Junior Colleges confer with officials of the Foundation, with all sharing the belief that the community college is one of the most ready and practical means of meeting certain educational needs present in most states.

The community college probably represents America's newest major educational movement. Elementary schools, secondary schools, four-year colleges and universities developed in this country as the settlers built their first homes on the eastern seashore and as the pioneers moved westward. The junior college represents a movement in education in the United States that did not gain momentum until the last fifty years. And now in the last half of the 20th Century significant things are happening in the community/junior college field from coast to coast. It is a national development although the situation, as far as form and organization are concerned, varies among states. In 1900 there were about eight institutions in the U.S.
of the type recognized as "junior colleges"; today, there are almost seven hundred institutions known either as junior colleges or community colleges. In 1952 there were 580 of these colleges with enrollments of 568,559; in 1958 there were 667 with enrollments of 892,642. Some authorities have estimated that the enrollments in 1975 will total two million.

Today the community colleges are usually two-year institutions that are oriented to the needs of their communities at the post-high-school level. This orientation to community needs is the point of difference between the junior college movement of the first half of the 20th Century and the current trend to community colleges.

Community colleges have a number of advantages. They are close to the homes of their students, providing both social and economic benefits. Tuition fees are usually either very low or non-existent and board and lodging costs are greatly reduced. The colleges are responsive to local needs: their programs are flexible, yet complete, with terminal curriculum opportunities tailored to the industrial job-training needs of the particular area, and with liberal arts and pre-professional courses of a quality facilitating the transfer of students to four-year colleges and universities for junior and senior classwork. And through activities for adults, the community colleges provide Continuing Education. Therefore, the community college is increasingly being recognized as the most ready and reasonable means of meeting certain educational needs felt at present in most states. Among these needs, as identified in a recent report of the Michigan Legislative Study of Higher Education, are the following:

The need to provide educational opportunity for an increasing number of people who are seeking formal, post-high school education, after taking full-time jobs . . . the need to provide programs that prepare people to hold jobs at the semi-professional or technician level, for an economy based largely on technology and destined to be influenced more and more by automation . . . the need to reduce or eliminate barriers of cost, distance, social status, etc., which discourage many able persons from acquiring education and training commensurate with their talents . . . the need to provide readily available Continuing Education for the training and re-training of out-of-school youth and adults . . . the need for an educational unit at post-high-school level which is virtually non-selective in its admissions practices but, through its curriculum and counseling, channels capable, qualified, and motivated individuals to advanced study in four-year colleges and universities.

When this image of the role of the community college is more widely
adopted, it should assure the “citadel of learning,” the American university, of a chance to preserve its character and to concentrate on advanced and professional education.

It is for the above reasons that the Eisenhower Committee for Education Beyond the High School spoke of the community college as helping to remove the educational barriers to talented youth from the lesser socio-economic groups. This President’s Committee also stated that the community college was essential in achieving within the future the American ideal that “Every individual regardless of race, creed, color, or national origin, shall have the opportunity to develop his or her best self, to continue appropriate education up to his or her personal point of optimum development.”

Four Conclusions Lead to Program Subsidies

The tremendous growth of community colleges over a fifty-year period, with the certainty of an acceleration in growth during the next five years, creates problems such as those of administration, curriculum, faculty, finance, and relationships to high school and four-year institutions. After studying this situation over a two-year period, the following conclusions were reached by the Foundation: (1) that the movement is of great importance in American education and is destined to become even more significant in the immediate years ahead; (2) that the directors of community colleges occupy strategic positions for educational leadership, yet only a few significant programs exist for either the preservice or in-service education of the community college leaders only a minority of whom come from previous junior college experience; (3) that the community college is very important for Continuing Education and community development programs (long-time interests of the Foundation) and offers new opportunities for the application of knowledge; (4) that previous experiences in Foundation-supported educational programs for public school administrators are helpful in evaluating the field of community college administration and that the administrator, if he is well-trained, should be an educational leader in the improvement of instruction but, if he is poorly prepared, may, indeed, be a great handicap to progress.

These conclusions led to a decision that the Foundation accept leadership at the community college level as a major interest and that assistance to projects be initiated in this field during the academic year of 1959-60.

The American Association of Junior Colleges

In 1959 the American Association of Junior Colleges requested aid from the Foundation to strengthen and expand the professional activities of its five commissions. This Association, founded in 1920, is the only
national organization concerned solely with the community college movement. Carried on are programs of service and research through its commissions which relate to: Administration, Curriculum, Instruction, Legislation, and Student Personnel.

These commissions, prior to receiving Foundation aid, met only once a year, at convention time when serious commission business is difficult to merge with convention activities. They had very little staff service since the professional employees of the central office were only two in number.

To remedy this situation, the Association proposed to add full-time members to the central staff, to make possible a special meeting annually of each commission, to provide funds for publications as part of a diffusion-of-research program, to pay consultant fees to those designated to assist local communities in planning for community colleges, and to provide for other expenses necessary in this expanded program.

The Association's request to the Foundation for funds to implement the program was approved and $240,000 committed for a five-year period which began in 1960.

*Training Projects in Community College Administration*

The study of the community college situation which led to the approval of the proposal presented by the American Association of Junior Colleges also revealed great need for university training programs specifically for community college administrators. Since the problem is national in scope and since there are elements of urgency in the current situation, the Foundation, therefore, has within the past year made commitments to ten universities: the University of California at Berkeley, Stanford University, the University of California at Los Angeles, Michigan State University, the University of Michigan, Wayne State University, Florida State University, the University of Florida, Teachers College of Columbia University, and the University of Texas. The grants will enable these institutions to set up new and improved programs at the master's and doctoral levels to increase the supply of qualified administrators, and to plan and conduct new in-service education programs for administrators who now serve community colleges.

Preservice aspects of the training programs at the universities will include efforts to identify, select, and encourage qualified young men and women to become administrators. Candidates for community and junior college positions can gain a working knowledge of administrative principles and educational leadership through basic courses with social, philosophical, and psychological foundations, and by seminars, guided field experience, and internships.
In-service programs at the new centers will provide "refresher" opportunities for persons already in executive positions. Summer institutes, workshops, periodic regional and statewide meetings, continuing seminars, and special conferences will be conducted to help improve administrative performance.

The university centers, to have liaison with the numerous community and junior colleges in their state or area and with professional associations, will sponsor studies designed to analyze job concepts, to improve executive functions, and to evaluate various aspects of administration. Consultative services will be made available to the cooperating colleges. The three California universities have cooperated in planning their program and have agreed upon procedure for coordination of various activities such as recruitment, placement, and in-service training. Similar plans for cooperation have been agreed upon by the two Florida universities, and by the three Michigan universities.

LEADERSHIP TRAINING FOR CONTINUING EDUCATION

Five universities within the United States have received aid from the Foundation in the development of extensive programs of Continuing Education. The grants to these institutions, along with funds secured by the universities from other sources, have made possible the construction, equipping, and programming of special Centers. Continuing Education, as generally defined, refers to study by adults, utilizing periodic learning experiences within a university environment and featuring a specially designed facility.

The Kellogg Center for Continuing Education at Michigan State University was constructed through Foundation and University funds in 1951. In a campus setting, making full use of the University’s resources and combining a special staff with a physical facility, this Center has achieved a nationwide reputation. During the school year of 1959-60 more than 44,000 persons participated in 320 conferences which were held at the Center.

A Foundation grant in 1957 to the University of Georgia helped make possible the Georgia Center for Continuing Education. This Center, with a rapidly developing program, provided educational experiences during 1959-60 to more than 26,000 persons who attended 437 conferences.

Because of the outstanding success of these two Centers for Continuing Education, the Foundation’s Trustees authorized more investments in this field and in 1958 three commitments were made toward the erection and programming of additional centers — two and one-third million dollars toward a University of Chicago Center; one and one-half million toward a Center to be on the University of Nebraska campus; and one million, six hundred
THE OKLAHOMA CENTER for Continuing Education is pictured in the left foreground of this glimpse of the University of Oklahoma campus. Under construction is a complex of structures including a forum with 20 conference rooms and a 500-seat auditorium, a dining hall, units for large and small group housing, and ten duplex units for light housekeeping. The Center will make use of a variety of adult learning methods and materials, including a closed circuit television system, and other audio-visual aids.

THE NEBRASKA CENTER for Continuing Education is also under construction. The portion of the structure designed for adults will be nine stories high, with the first two stories housing conference rooms and the other seven encompassing guest rooms. Included will be an auditorium seating 700 persons, meeting and lecture rooms, a television studio and control room, and dining accommodations. Connected with the adult section by a two-story arcade extension of conference facilities is the three-story "Hall of Nebraska Youth," with inexpensive lodging and food service and flexibility in assigning areas for either girls or boys.
thousand dollars, toward a Center at the University of Oklahoma. These sponsoring universities are providing from other sources approximately fifty per cent of the construction costs. Construction is now in progress at two of the Centers and the other building is now on the planning boards.

Experience in operating the Centers at Michigan State University and at the University of Georgia, and in planning and organizing the Centers at the Universities of Chicago, Nebraska, and Oklahoma, clearly indicates the need for especially prepared administrators and faculty as leaders for this new concept in adult education. To meet this need, the Foundation included in its grants to the three new Centers funds which will be used in conducting both preservice and in-service training programs for key personnel in Continuing Education and Adult Education.

In addition to these direct approaches to the solution of this problem, the Foundation is aiding the Adult Education Association to subsidize annual conferences through which the Professors of Adult Education of the country plan and conduct leadership training at the graduate level. This group recognizes clearly that understandings of the psychological, sociological, philosophical, pedagogical, and administrative backgrounds are an important first step in creating an integrated curriculum and placing guideposts for leadership training which affects literally millions of Americans who seek refresher or new information as a lift in their livelihood or in their cultural life.

TRAINING LEADERS FOR ELEMENTARY AND SECONDARY EDUCATION

During the period from 1950 to 1960 the Foundation granted financial assistance over the nation to thirty-five projects concerned with improving educational administration at the elementary and secondary school levels. The specific purpose has been to assist in the development of comprehensive preservice and in-service programs whereby the school superintendent and principal may acquire added information and skills so greatly needed in their complex work.

The first phase of this dynamic professional movement was termed the Cooperative Program in Educational Administration (CPEA). With coordination through the CPEA, approximately 140 of the nation's institutions of higher education cooperated with the eight key university centers. State departments of education, local - state - national professional associations, hundreds of schoolboards, and many citizens encouraged the in-service education of thousands of public school leaders. After 1955 there was a change in the focus of the program, it subsequently centering upon an intensification relating to those problems revealed to be the most significant and difficult of solution during the initial five years. The Foundation has been a collaborator through its grants totaling nearly seven million dollars to the participating institutions and agencies over the decade.
HARVARD'S ADMINISTRATIVE CAREER PROGRAM is designed for men and women of unusual promise who intend to practice in the field of educational administration and are willing to participate in an intensive and demanding post-master's degree program to gain additional background and understanding. Another important purpose is to make available richer in-service education opportunities for practicing administrators. The program, from its inception, has been a distinguished one because of the resources available at the University and the excellence of the participants who, from several states of the nation, are carefully selected.

Most of the institutional projects, as far as Foundation support was concerned, were completed in 1960. The two projects which are national in scope — the Committee for the Advancement of School Administration and the University Council for Educational Administration — have received commitments for Foundation aid which will last three more years.

Throughout the period the American Association of School Administrators has been in the forefront of the endeavors to heighten the administra-
tive skills of those who lead our public schools. Correspondingly, this Association itself has felt the impact of the nationwide educational movement. Its leaders testify that their conventions, publications, working committees, and other phases of activities have shown an increased concern with the improvement of the professional stature of school administrators. Many of these new directions and energies have considerable relation to the CPEA and subsequent Foundation-aided programs in the field.

Although final reports on the many projects in educational administration will not be issued until 1961, experimental programs have clearly demonstrated that the emphasis should be upon understanding the most important element of administration, which is people. (This is in contrast to the development of qualifications for minor administrative duties such as bus scheduling and the supervision of auxiliary enterprises.) The superintendent is now thought of as the official who is skilled in many disciplines

**NUTRITIONAL PROBLEMS** in six Latin American republics have been investigated by the Institute of Nutrition of Central America and Panama for several years, partly through Foundation funds. The most recent Foundation grant was to provide additional personnel to plan demonstrations and to give consultation for the application of the research findings to the Institute's program in applied nutrition. Pictured is a nutrition worker explaining "cooking for nutrition" to a group of interested adults and youth.
focusing upon the behavior of human beings and who leads the people in the social organization that is the school. Educational administration calls for understanding and skills far beyond that required a few years ago and Foundation-supported projects have helped train men to meet this challenge.

Among the many universities participating in these educational administration programs there have been different lines of attack upon the problems involved. Limitations of space here preclude even a sketching of the numerous institutional and agency efforts. However, space will allow for a story of how one of the country’s leading universities is using its great interdisciplinary resources to develop better school administrators. From young administrators with some previous school experience, Chicago University’s Midwest Administration Center carefully chooses “the cream of the crop” for intensive exposure not only to advanced-level administrative theory but also to demonstrations and problem-solving as parts of carefully selected and intensive field training. The approaches and goals of the program are sketched in the following pages.

(A complete listing of all Foundation-aided programs in Education during the year will be found at the conclusion of this chapter.)

THE CHICAGO PROGRAM TO TRAIN EDUCATIONAL ADMINISTRATORS

Preceding pages of this chapter sketched the activities of the Cooperative Program in Educational Administration (CPEA). From 1950 through 1960, the Foundation assisted a number of collaborating institutions and agencies to improve the nation’s public school leadership through more effective preservice and in-service training for elementary and secondary school administrators.

Over the decade, the University of Chicago, through its Midwest Administration Center, has been in the forefront of both phases of the movement to better educational administration.

During the first half of its span, the Center stimulated the varied activities of institutions and agencies of twelve states — Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin — which resulted in measurable gains for public education. In Midwest institutions, administrator preparation was strengthened by knowledge from intra-university disciplines as well as by the introduction of a variety of field experiences. There was notable improvement in conferences, workshops, and similar in-service training opportunities. Superintendents and principals were led to undergird their policy
decisions with the findings from systematic research. These findings were translated into practice through dissemination by various media including such publications as the Center’s eight-year-old Administrator’s Notebook. Some school systems were aided to evaluate the effectiveness of their instructional programs. The policy-making responsibilities of schoolboards grew in stature. Most State Departments of Education improved their consultative services to local schools. Newspapers of the Midwest became more “education-minded” and better able to report objectively upon the goals and problems of education. And the participation of citizens in educational planning grew significantly as such participation was encouraged.

Second Phase Features Staff Associates

Since 1955 the regional influence of the Center has persisted through its frequent problem-centered “Clinics for Administrators,” “round-tables” for superintendents and workshops for principals, and through its consultative services to local school systems—all attracting continued interest from administrators of the region. An even greater audience than the twelve states is had for a number of the published monographs while the aforementioned Administrator’s Notebook circulates in forty-nine of the nation’s fifty states.

However, an intensive, rather than an extensive, approach has been emphasized by the Center during the last five years. This second phase of the Chicago program intensifies administrative education by following through on such purposes as:

1. The careful development at the Center of a few selected individuals who, in turn, are responsible for training programs affecting large numbers of potential and practicing administrators. Such key leaders are known as “Staff Associates.”
2. Contributions by the Chicago Graduate School of Education to the development of a more meaningful and consistent theory of administration.
3. Enhancement of the use of research and research findings by practitioners.
4. Improvement of preservice programs throughout the Midwest through Chicago’s preparation of greatly needed professors of administration.
5. Betterment of instruction and participation through the Center’s frequent staff seminars and a new “Master of School Administration Program.” (The latter is a two-year program to select potential administrators among young teachers and to train them for initial administrative posts, usually at the principalship level.)
6. Examination of the findings of other disciplines and their relevance to educational administration ... the interdisciplinary approach so that the student-administrator has access to the great intellectual life of this University through instruction from and consultation with widely known sociologists, psychologists, political scientists, economists, and other social scientists.

7. Continued Center activity to improve the in-service education opportunities for Midwest administrators.

**Fill Important Educational Posts**

The majority of the above-mentioned purposes are self-explanatory so that the focus of the remainder of this résumé will be upon the Staff Associates — the most distinctive feature of the current Midwest Center program. This plan involves the identification and selection each year of a few young men who have demonstrated both academic competence and outstanding practice of administration. Chosen on a competitive basis, from a list of applicants representing the United States and Canada, the successful superintendents, principals, and other educators undergo at the Center two years of advanced study, research, and field experience which culminate usually in the Ph.D. degree. The primary objective of this program is to prepare qualified individuals for key positions as public school administrators or as professors of educational administration.

The term "Staff Associate" first was used in 1955 but the pattern of training actually antedates this time by a few years. Emanating from this intensified program, Midwest Center alumni continue to take important posts in American education. From the Staff Associates, a number of new superintendents have been supplied to the Midwest, particularly in Ohio, Michigan, and Wisconsin, and almost invariably the additional administrative training has brought promotion of these men to greater responsibility in larger school systems. Advancement has also been the order of the day for elementary and high school principals and directors of instruction who have left the Center to take over superintendencies.

The Dean of Education at the University of South Carolina and Idaho State College are former Staff Associates of the Center, while other alumni are professors, associate professors, or assistant professors at such institutions as the Universities of Alberta, Chicago, Kansas City, and Tulsa, and at Cornell University, Fenn College (Cleveland), Morris Brown College (Atlanta), Northern Illinois University, Southern Illinois University, Ohio State University, and Leland Stanford University. Additional university
posts are held by “Staff Associate Alumni” at the Universities of Arkansas and Buffalo, and at Trinity Christian College (Worth, Illinois.)

A Survival of the Fittest

To become a Staff Associate involves considerable financial and other sacrifice on the part of practicing school administrators. They leave jobs usually better than the average for young school men and, of course, do not draw their salaries while away. Stipends of about $5,000 annually help them to meet basic living expenses. However, their real recompense, tangible and intangible, lies in the years ahead. What, then, is the motivation for these young superintendents and principals to become Staff Associates for two years of intensive administrative training at the Midwest Center? They voice a variety of reasons — “... to become an educational leader and be able to offer counsel in a socially involved community;” “... to gain promotion and advancement in my chosen career;” “... to garner administrative principles and skills by which I may help fashion superior schools;” “... to have an opportunity to move from a principalship to a superintendency;” “... for the opportunity to pursue intellectual interests through contacts with the great minds in the various university disciplines which are a part of my training;” “... so I may do my work with greater confidence, using no ‘blue-print’ but building upon principles and skills developed during my two years at the Center.”

Four (sometimes five) Staff Associates are chosen annually by the Center. To facilitate such choices, two hundred nominator-educators review the requisites and propose candidates for first-round consideration. Preference is given to practicing administrators under thirty-five years of age who have completed a master’s degree program and the candidates must be of high intellectual capacity, with writing and research potentialities, personable in appearance, and committed to an educational career.

Nominees are required to furnish a six hundred word statement of their qualifications as well as all scholastic and work records and references. There follows an initial screening of the applicants, with only fifteen to twenty “survivors” of this screening. Complete information on each applicant is then circulated to a selection committee and the members make independent rankings of the applicants. Review of the material and the rankings enables the reduction of the candidates to six or eight and these people then visit the University of Chicago. A psychological examination, a written response to a problem situation in educational administration, and a structured interview by a panel, are important in the final selecting of four or five Staff Associates to start the two years of training.

The two years are filled with learning experiences adapted to the needs, interests, and future goals of each Associate. Most desire to become
administrative practitioners but others incline toward professorships in educational administration or along research lines. Aside from certain basic requisites, the courses and experiences are designed to further each person’s preferences, interests, and potentials. All are given a broad interdisciplinary understanding of administration, for the University of Chicago faculty includes many eminent authorities in the social sciences and these scholars extend real cooperation to the Center.

**A Strenuous Regimen for Two Years**

Earning a Ph.D. in the Center is not just another academic experience, for it is a place of intellectual vitality! Administration is being studied, research is being conducted, with the activities reflecting what is going on in school and administrative circles. Various means are provided for constant communication with practitioners in the field. The Staff Associates have opportunities to observe many school systems and to interview superintendents on-the-job. The Graduate School of Education, through its Field Service Committee, is called upon to make many consultative investigations and comprehensive surveys of schools large and small in the Midwest. And the Staff Associates play a fundamental role as survey team members, gaining practical experience in analyzing the problems and potentials of educational units ranging from single suburban schools to metropolitan area systems. Often, too, they serve as consultants to school administrators and school boards on subjects such as changes in the school plant, curriculum reorganization, school district organization, finance, and many kindred problems.

During the two years, the candidate for the Ph.D. must attend and evaluate many conferences, workshops, clinics, and seminars, and periodically he has the responsibility for planning and conducting these events which may bring practicing administrators to the Center from several states. In addition, the student administrator attends frequent staff seminars as led by nationally recognized leaders who hail not only from educational spheres but also may come from sociological, psychological, or other social science disciplines.

Within the Graduate Department of Education, the candidate is required to participate in certain teaching functions, both at regular class sessions and during the several workshops held annually. He, in a sense, is a Fellow and Student Assistant and, as such, is responsible for arranging the details for group visits to the School, serves as secretary to a clinic committee, aids in the library, and handles correspondence relating to questions concerning administrative matters.

Because the University of Chicago is research-oriented, the Center
STAFF ASSOCIATES and members of the Faculty comprise the pictured seminar, one of many learning experiences provided by the Midwest Administration Center at the University of Chicago. Leading the group in the center background is Francis S. Chase, Dean of the Graduate School of Education.

places considerable emphasis upon methods of and findings from research. These encompass both group studies and individual projects and range from case studies in suburban schools to, for instance, the development by three of the Staff Associates of a psychological device to measure public opinion as to today's central goals of public education. This Task of Public Education Opinionnaire was circulated to the educational field last summer and represents the most recent monograph issued by the Center. Further, it illustrates the emphasis to the students of administration that the dissemination of findings is as important as the research which precedes.

The Staff Associates are also responsible, in varying degrees, for other publications of the Center including another recent monograph, Adminis-
trative Theory as a Guide to Action, and seven additional major publications of the Center since 1957. The Associates do much of the research and editing for the Administrator's Notebook frequently and widely circulated and heretofore mentioned. And each candidate is encouraged to contribute educational articles to professional journals.

Center is Firmly Established

The accomplishments of the evolving Staff Associate program, along with other educational administration efforts at the Midwest Center, represent an important segment of a national, and even international, effort of school administrators to help themselves. As superintendents and principals gain administrative principles and skills, such efforts accrue to the real benefit of American children, for a superior school usually is well-administered. Such educational administrative gains for the Midwest seem assured of continuity. This is because the University of Chicago has indicated that, at the expiration of the Foundation grant in 1961, it will continue in full effect the Center's efforts which have great impact upon practicing administrators in the field, graduate students, schoolboards, state departments of education and upon administrator preparation programs in numerous colleges and universities of the region.

PROGRAMS CURRENTLY BEING ASSISTED
IN EDUCATION

CANADA

Canadian Education Association, Toronto, Ontario
To aid the expansion of this Association's service programs, including publications, consultative service, conferences, and workshops, with emphasis on aid to educational administrators of Canada.

University of Alberta, Edmonton
To aid the preservice and in-service programs for the improvement of educational leadership in Canada, by strengthening the graduate program in educational administration at this University.

LATIN AMERICA

Institute of Nutrition of Central America and Panama, Guatemala City
To provide personnel for demonstrations and consultative services to facilitate the application of research findings to the Institute's program in applied nutrition.
THE JOHNS HOPKINS UNIVERSITY, SCHOOL OF ADVANCED INTERNATIONAL STUDIES, Washington, D. C.

To assist in the development of the school's Latin American program, including career training and practical social and economic research.

UNITED STATES


To assist the Professors of Adult Education, located in various universities and organized as a division of the Adult Education Association, to plan and conduct training programs for leaders of adult education activities.

AMERICAN ASSOCIATION OF JUNIOR COLLEGES, Washington, D. C.

To aid in strengthening and expanding the Association's services by making available leadership to institutions, to state departments of education, and to local communities in the planning of community college programs.

BATTLE CREEK BOARD OF EDUCATION, Battle Creek, Michigan

To assist in the development of a new campus with five buildings for Battle Creek's municipally supported Kellogg Community College.

BATTLE CREEK CHILD GUIDANCE CLINIC, Battle Creek, Michigan

For expanded child guidance services in Branch and Calhoun Counties of Michigan.

BOARD FOR FUNDAMENTAL EDUCATION, Indianapolis, Indiana

To assist a program designed to teach self-help and to restore community action in solving individual and community problems, with demonstrations conducted in schools, colleges, and universities of Indiana, Minnesota, Texas, Wisconsin, and West Virginia.

CONTINUING EDUCATION, University of Chicago, Chicago; Michigan State University, East Lansing; University of Georgia, Athens; University of Nebraska, Lincoln; University of Oklahoma, Norman

To assist selected universities in the construction of facilities and the development of programs for continuing education designed to provide this type of adult education to people of varied age levels and different educational achievement.

FOUNDATION LIBRARY CENTER, New York

To assist in establishing a sustaining fund to support the central services of the Center.

MICHIGAN STATE UNIVERSITY, East Lansing

To aid the establishment of an Institute for Community Development to help communities in Michigan to solve governmental, finance, transportation, land-use, and similar problems.

To assist in the expansion of the Gull Lake Biological Station by constructing and furnishing laboratories, lecture rooms, housing, dining hall, and kitchen facilities.
Educational Administration, Auburn University, Auburn, Alabama; Colorado State Department of Education, Denver; Eastern Kentucky State College, Richmond; George Peabody College for Teachers, Nashville, Tennessee; Montana State University, Missoula; North Carolina Department of Public Instruction, Raleigh; Ohio State University, Columbus; Stanford University, Stanford, California; Teachers College, Columbia University, New York; Texas Education Agency, Austin; University of Arkansas, Fayetteville; University of Chicago, Chicago; University of Georgia, Athens; University of Kentucky, Lexington; University of Mississippi, Oxford; University of Oklahoma, Norman; University of Oregon, Eugene; University of Tennessee, Knoxville; University of Texas, Austin; Washington State University, Pullman; West Virginia Department of Education, Charleston; Committee for the Advancement of School Administration, Washington, D.C.; University Council for Educational Administration, Inc., Columbus, Ohio

To assist universities, colleges, and professional organizations in the development of comprehensive preservice and in-service programs for the training of school administrative personnel for positions at the national, state, county, and local levels.

National Association of Educational Broadcasters, Urbana, Illinois

To improve educational radio broadcasting through the extension of a program network, using sound tape, and through expanded services of the Association's staff.

Training Administrators for Community Colleges, Stanford University, Stanford, California; University of California, Berkeley and Los Angeles; Florida State University, Tallahassee; University of Florida, Gainesville; Michigan State University, East Lansing; University of Michigan, Ann Arbor; Wayne State University, Detroit; Teachers College, Columbia University, New York; University of Texas, Austin

To assist in the development of comprehensive preservice and in-service programs for the training of community college administrative personnel for positions in such colleges and in national and state agencies.

White House Conference on Children and Youth, Washington, D.C.

To help meet the costs involved in the planning and conducting of the 1960 conference.

Wolverine Boys' and Girls' States

Scholarships for attendance at conferences for teaching future citizenship responsibilities to outstanding youth.
A number of recent national studies point to rising standards of medical care and the nation's rapid population growth as immediate reasons to plan for increased medical school enrollments. If we are to meet the country's health care needs in the next two decades, a long-range endeavor, embracing medical service, education, and research, is a necessity. Estimates of the future need for physicians vary considerably, but there is almost universal agreement that, as a minimum, the present population-physician ratio must be maintained. Medical educators recognize that the expansion of existing medical schools, development of new four-year schools, and the initiation of several new schools of the basic medical sciences will all be necessary if the pro-
fession is to keep pace with the growing need for physicians. The Foundation's collaboration to establish several schools of the basic medical sciences is discussed at some length later in this chapter.

Fact-Finding to Point to Improvements

Leaders in the field realize that the planning necessary to advance our medical education system must be based upon accurate data. A *sine qua non* of the effort to upgrade the programs of the nation's 86 medical schools is that of comprehensive studies of the administration, financial structure, curricula, research and medical services of the schools. That is the reason for the Foundation's continued support of "fact-finding" activities of the Association of American Medical Colleges. Medicine, in keeping pace with the rapid advance being made in the related sciences, must provide aggressive leadership in solving problems pertinent to the training of the physician as an undergraduate student and later as a practitioner of medicine. What factors encourage or discourage students from selecting, or remaining in, medicine as a career? What are the objectives, the educational values and the relationships of the medical internship to the hospital? What can be done to alleviate faculty shortages in medical schools? In terms of finance, what does it actually cost to operate an existing medical school and what would it cost to construct new medical education facilities and to operate them on an improved plane?

These are some of the questions for which the Association of American Medical Colleges is attempting to find answers — through questionnaires to member schools, through visits to medical centers, and through other methods of data gathering on the myriad of activities associated with the preparation of the nation's physicians. The results of such data analyses and informational services are provided to the medical school members of the organization through “Datagrams,” with the Association serving as a clearing house to use these compact summaries for quick translation of research findings to improve medical education. The fact-finding is being watched by medical educators everywhere, for there is intense national interest in the problem of medical supply and demand and the need for authoritative data that will serve as the basis for action both now and in the future.

Conflicting Concepts of the Internship

A principal study by the Association is concerned with assessing the educational quality of the medical-school-controlled internship, both rotating and straight internships, as related to undergraduate and residency programs. This study has timely significance because of the number of controversial issues that have developed around this subject. There is honest difference of opinion as to whether the rotating internship should be
shortened, lengthened, or abolished, and as to what extent the straight internship should replace the rotating type where the student desires to become a specialist. The ultimate goal of the study, of course, is to improve the educational content of the internship and to determine if there are ways to conserve the time of the young physician in the latter phases of his training period. The intern's role in the hospital staff organization is being studied and such educational activities of the intern as conferences, seminars, research and committee participation are a part of the review. Of particular interest in the study is the extent of the intern's contact with patients and the amount and quality of supervision given by the hospital staff in these contacts.

Focus on Medical Student

To what extent are financial problems interfering with an adequate supply of medical students? Because the ratio of medical school applicants to first-year students has shrunk from four-to-one to about two-to-one in little more than a decade, medical educators are especially interested in placing the applicant as well as the student under the microscope. Data are being secured on the finances of the medical student. For example, if he marries while still a student, what financial complications may ensue and how may he be helped to bridge the gap between income and outgo? The Foundation-supported study is seeking to discover the major factors which encourage or discourage students from selecting medicine as a career and to learn what happens to applicants denied admittance to medical schools. Surveys of "drop-outs" and their causes, preparation prior to medical schools, and the personal qualifications of medical students are also being made. And probable trends in numbers of future students are being projected in relation to such factors as the scholastic requirements of the institutions and the geographic sources of the applicants. This information will enable the schools to plan more intelligently for better recruitment of students and more efficient operation of the schools.

Also Eye Faculty and Curriculum

Studies of several facets of the problem of adequate teaching staffs for medical schools are also well under way. Faculty shortages in existing medical schools and projected faculty requirements for new medical schools highlight the need for extensive data on present medical teaching staffs. Facets of the study include faculty salaries, educational and experience backgrounds, tenure, the number of full-time and part-time teaching personnel, and an investigation of what is an optimal student-faculty ratio.

The medical school curriculum is another important focus of these studies with the Association placing particular emphasis upon investigations of the relative educational needs for physicians intending to enter
medical practice, research, or teaching. The curriculum problem was recently well-stated by an eminent medical educator:

"We can no longer solve the problem of an expanding body of medical knowledge by simply increasing the content and length of the training period. Limitations upon the human intellectual capacity preclude the addition of much more curricular material, without adding to the time now currently required, and limitations upon the human span of usefulness make it unreasonable to cut further into a physician's years of professional service. If the educational period for the practice of medicine is to be kept within these limitations, the question of subject matter must be kept within constant review. It will not be a simple matter of adding new and dropping old curricular material. The task will rather be one of assimilating new and revolutionary concepts which are continuously arising and profoundly changing the time-honored orientations of almost every field of medicine."

Such an approach should go a long way in providing a sound, factual basis for coming changes in medical education. Continuous revision of curricula is needed to embody new knowledge and to eliminate the obsolete, and effective structuring of the curriculum is the goal of every school cooperating with the Association.

Analyses of Current Problems

Through Foundation funds, a series of regional conferences of medical school administrative personnel have been held to review procedure for initiating a simplified cost study plan intended to give medical deans and others much-needed information about school operating costs so that there may be more efficient administration of teaching and medical service programs. Medical training is expensive as compared to other professions, partly because of the inclusion of clinical experience in the hospital as an essential part of the teaching program. Many medical schools operate large medical centers which provide care on both a payment and a free basis. Such centers also house extensive facilities for research. The rising costs of hospital care is one of the factors that make it necessary that accurate cost data be available, particularly for those in responsible administrative positions.

Subsequent to the conferences, the Association is developing a method for comprehensive analysis of medical college financing. Its goal is uniform accounting, budgeting, and fiscal terminology for use by all schools as well as the growth of routine periodic financial reporting by the cooperating institutions. A major problem is to separate costs for education, service, and
IN A RECENT SURVEY, seventy-eight four-year U.S. medical schools indicated a need for $757,200,000 in construction funds between now and 1965 for the building of new facilities as well as for the remodeling and renovating of existing medical school plants. These needs are indicated by category in the above "Datagram."

As comparable cost data are secured from all medical schools, the achievement will help simplify one of the administrative problems of operating the schools and will facilitate their relationship to their teaching hospitals and parent universities.

Study Problems in Creating New Medical Schools

Among medical educators and other leaders in the health professions, there is general agreement that more medical schools are currently needed and that long-term planning for the location and construction of new educational facilities should have priority attention. The service objectives of the Association of American Medical Colleges include the provision to com-
munities interested in new medical schools of data on the many complex and expensive factors that are involved. The problems experienced by several universities in the recent establishment of new schools are being analyzed through visits by the Association staff, and relationships to other schools of the university, to medical organizations, and to hospitals are being included in the Foundation-supported survey. Financial problems, construction needs and costs, curriculum development, and faculty procurement are subjects of investigation, and the accumulated information is intended to encompass all necessary facts needed by universities, collaborating agencies, and communities in making the proper decision as to whether and how a new medical school will be established in an area.

A partial solution to the problem, evolving from a several-year study by leaders in the medical profession, may come from the revival of an idea first put forward some years ago. This has to do with the establishment of schools of the basic medical sciences (three are currently in existence) to encompass the first two years of the medical curriculum, with a view toward transfer of the students to traditional four-year medical schools for their junior and senior years. Only a minimum of clinical training is involved in the freshman and sophomore medical years and in many communities existing hospital facilities would be adequate for this purpose. Therefore, the re-emerging idea would not require new hospital construction and hence would involve much less expense than the traditional four-year medical school. Thus the establishment of several schools of the basic medical sciences could significantly add to the numbers of young people undertaking the study of medicine. No complications are foreseen with respect to the transfer of students to traditional schools for upper class study. There should be ample openings for these transferees in the clinical years of the four-year schools because of the greater capacity in many of these schools for training in the clinical years than for the basic science years. Drop-outs also will make for vacancies and, if additional clinical training is needed, the traditional schools can add hospital facilities as available in communities rather than to build new facilities.

Impressed by this reasoning, as presented in detailed form by medical educators and representatives of a number of medical agencies, the Foundation in May of 1960 granted $1,082,300 to the University of New Mexico to assist the establishment over a five-year period of a school of the basic medical sciences at Albuquerque.

Besides serving the state, the New Mexico School of the Basic Medical Sciences will be regional in character and should attract students from many of the West's thirteen states, eight of which do not have a medical school. A joint committee of the American Medical Association and the
Association of American Medical Colleges will counsel the University in this pilot venture.

In the future the Foundation contemplates additional grants to facilitate the establishment of similar schools of the basic medical sciences.

Help to Other Programs

Foundation aid to the Baltimore City Hospitals, cooperating with the medical schools of Johns Hopkins University and the University of Maryland, is facilitating the establishment of several two-year general practice residencies. A goal is to integrate general practice residencies with those of the other medical specialties in a medical school teaching hospital, and better to define the two-year training program for physicians preparing for general practice. The emphasis to be given to various specialty aspects of the two-year residency will be determined after studies of the activities in these special areas of physicians in general practice.

The Foundation shares the concern of medical educators regarding the problem of keeping the physician informed through continuing education programs. Over a period of more than two decades, Foundation assistance has extended to a wide variety of efforts to keep the medical practitioner abreast with the rapidly expanding field of medicine. These have largely been efforts to find better ways of conducting continuing education programs and, for this purpose, help currently is being given to the medical schools at Dalhousie University, the University of Toronto, and the University of British Columbia to establish postgraduate departments. The program in each of these schools includes intramural short courses and extension activities designed to make available educational activities to the physician in his own local environment.

Under other Foundation commitments, the Universities of Wisconsin and Colorado are experimenting with the hospital medical audit as a tool for determining the educational needs of rural practitioners. These schools have experimented with the provision of specialist consultants to rural hospitals as one continuing education pattern. The consultants serve as medical teachers in their particular specialties by studying patient care problems and advising the hospital medical staff as to solutions. Such consultation is directed to the total staff rather than to the individual physician.

Another Foundation grant is enabling the University of Toronto to make a comprehensive survey of its medical curriculum. This school is seeking better teaching methods, recognizing the problems brought about by the rapid increase in the number of facts and techniques the student must learn. Since lengthening the curriculum is not practical, there is a necessity for deleting less-useful subject matter and in keeping course content up to
The Foundation shares the concern of medical educators regarding continuing education programs to keep the physician abreast of the rapidly expanding field of medicine. Postgraduate Education departments as pictured at Dalhousie University, and also as assisted in the Universities of British Columbia and Toronto, are developing programs for Canadian physicians in their own hospital environments.

date. Faculty committees under a full-time study director are analyzing the teaching methods now in use and are considering the wider use of some of the more efficient techniques. Teaching practices are being examined in the light of increasing specialism in medicine and the emergence of newer groups of professional workers pointing toward the team concept in the field of medical care. Other questions being studied are the medical school-teaching hospital relationship, particularly the teaching implications of health insurance programs and the maintenance of optimum teaching conditions in hospitals. Toronto is also concerned with the medical manpower problems
and plans to project future needs for physicians in Ontario in terms of possible future expansion of the school.

Cooperative Aids for Latin American Medical Education

Foundation assistance is contributing to the rapid progress in medical education that is being made in many parts of Latin America. The most important part of the aid is the program of fellowships providing U.S. study and observational experiences for the advanced training of selected faculty members. Such training has helped prepare a corps of young medical educators with new ideas, together with the necessary background and competence to help put the ideas into effect. As new fellowship awards are made every year, the program is a cumulative one, so that the results are constantly more apparent.

Many of these Fellows have contributed to the establishment of new teaching programs of broad significance to the progress of medical education in Latin America. In some basic science departments, there are full-time faculty members teaching well-organized courses where very inadequate instruction was being given only a few years ago. Practical training, in which the students perform laboratory experiments themselves, has replaced the teaching of basic medical sciences merely by lectures or by vicarious demonstrations. Similarly, in some clinical departments, student clerks have been given greater responsibility for patient care under supervision of full-time teaching personnel. Residencies have been made a part of the teaching program, with benefit to students and patients alike.

Over the years the Foundation has granted assistance, including 363 fellowships, for the introduction or extension of modern systems of clinical teaching in twenty-three medical schools of Latin America. Four current programs in which the Foundation’s assistance includes purchase of equipment, salary supplements, stipends for residents and interns, and visits of American professors, are those in the University of Antioquia, Medellín, Colombia; in the University of San Marcos, Lima, Peru; in the University of Bahia, Salvador, Brazil; and in the University of Rio Grande do Sul, Porto Alegre, Brazil. These kinds of assistance are reflected in the improved teaching of internal medicine and better basic medical science instruction in these medical schools. For instance, the clinical clerkship long used in our country, is relatively an innovation in Latin America and adoption of this instructional pattern has been encouraged in the projects mentioned above. In all these centers strong support for the new programs of medical teaching is being given by young physicians who have had advanced training in the United States through fellowships provided by the Foundation.

Such developments in certain schools have quickened the interest in improving medical curricula throughout Latin America. There is a keener awareness of the need for new methods to replace outmoded practices. The
increased concern with ways to improve instruction is found everywhere; and with it, there is a desire to study the principles involved and thereby determine the steps to be taken. Thus there are more frequent meetings for discussion of these matters, with representatives from all Latin American countries. Each country is benefiting from the experiences of the others in working out the solutions that are best suited to the local circumstances and available resources.

**Continent-wide Internal Medicine Conference**

It was in this spirit, characteristic of the new surge of progress, that a Seminar on the Teaching of Internal Medicine was held in Manizales, Colombia, in December, 1959. Basically it was a meeting of delegates from the seven Colombian medical schools, but a Foundation grant provided for attendance by medical educators invited from other Latin American countries as well. The result was a meeting that represented widespread interest in the new trends in the teaching of medicine. Many of the delegates had previously held Foundation fellowships for training in the United States and now hold positions of leadership in their schools. Their experience gave them the necessary background to participate constructively in the Seminar, and to benefit from the discussions of methods and objectives.

A summary of the deliberations and conclusions of the Seminar was distributed to medical educators throughout Latin America. As a consequence, the diffusion of the new viewpoints continues.

All Medical and Public Health programs currently being aided are listed at the end of this chapter. An aided program of unusual interest is sketched in some detail in later pages of this chapter.

**New Directions in Public Health**

Over the years Foundation assistance in the area of Public Health has been directed largely to programs designed to meet changing community health needs. In the last decade, aid to health agencies for demonstrations in such fields as accident prevention, sight conservation, and gerontology has helped the public health worker to determine his role in these spheres of need. The demonstrations also have provided him with an incentive to re-evaluate his traditional functions, some of which are no longer as essential as formerly. Again, in carrying out newer activities the health worker has contributed to the knowledge and methodology necessary for public health's transition from concentration upon the control of communicable diseases to other problems of equal concern to the community today.

Concurrent with the changes in practice, public health administrators and educators have recognized that more administrative research in schools
of public health is needed to gain new knowledge about chronic disability, new pollutants of water and air, and similar problems, and to find ways in which administrative procedures can be reoriented to develop increasingly effective services. Both official and professional organizations have endorsed the revitalization of administrative research in schools of public health and in operating health agencies.

To Improve Community Health Administration

Increasingly indicated by many public health leaders has been a desire to better the approach to present-day health problems. Consequently, the Foundation during the last three years has made commitments to three schools of public health and three state departments of health for the improvement of community health administration through studies and demonstrations. For each of these programs, the Foundation funds are providing a director of studies and operational expenses. This aid in setting up the mechanism for administrative research activity has enabled the institutions and agencies to go ahead with a variety of surveys and investigations pertinent to the aforesaid purpose. In addition, other grants have been and will be received from other sources to support specific research projects.

For example, the Johns Hopkins University School of Hygiene and Public Health received two grants from the National Institutes of Health to conduct inquiries. One is of methods for assessing the severity of long-term illness; the other, a follow-up and study of the status of persons included in the Baltimore multiple screening project of the Commission on Chronic Illness. The University of Michigan School of Public Health has completed a pilot study of the cooperative relationships between the health departments and the departments of social welfare in three counties of Michigan. Interviews and questionnaires were used to collect the data which can be the basis for more positive joint action on the part of the two agencies. In Canada the University of Toronto School of Hygiene is studying the functions of local Medical Officers of Health and collecting information about health services as background material for improving the educational content of the curriculum leading to a Diploma in Public Health.

Stimulated by the Foundation aid, the California State Department of Public Health recently organized a Division of Research. One function of the Division will be to conduct and stimulate studies related to the re-orientation of public health administration. The Florida State Board of Health is using funds from a Foundation grant for investigations within the areas of accident prevention and an expanded program for hospitalization of the indigent. A health program analyst is also initiating a study of the present organizational structure of the State Board of Health, while the
Board has also designated a project director for a cooperative "Chronic Disease Project" in Dade County, the largest county of the State. Since the Foundation's commitment to the State of Washington was made only recently, the community health administration program of the State Department of Health is just getting underway, with a Chief of Research and Program Planning having been named in recent months.

In March, 1960, the U. S. Public Health Service and the Foundation co-sponsored the first meeting of the six project directors in Washington, D.C. This gave the directors an opportunity to discuss the common problems of public health methods to meet changing needs in such areas as chronic illness, radiological health, increasing water and air pollution, and mental health and rehabilitation. In a united effort, these agencies are trying to evolve solutions to problems encountered in the financing of public health, community nursing services, the optimum functioning of various types of health personnel, the components of prevention and more effective ways to conduct environmental health programs. They, too, are seeking to analyze community reaction, acceptance, change of attitude, and increased knowledge and motivation as measured in relation to specific health programs.

Coordinates Services for the Aged

Many communities have a number of specialized agencies and a reasonable amount of resources to deal with problems of aged people, but not many communities have provided means of follow-through by which a comprehensive view can be had of the multiple needs of older individuals. However, in Grand Rapids and Kent County, Michigan, a Coordinating Council for the Aging was established during 1959, this community action being stimulated by studies and courses in gerontology as conducted by the University of Michigan Extension Service. With spadework by two local groups and an advisory committee of interested citizens, the organization grew to the point of employing an executive director, using funds from a Foundation grant for this and allied purposes.
COMMUNITY ACTION in behalf of senior citizens is implemented by a Foundation-aided Coordinating Council for the Aged in the Grand Rapids, Michigan, metropolitan area. The sponsored activities embrace many facets of individual and community living and are being evaluated to determine their effectiveness and scope.

Activities during the past year have included compilation of a directory of area agencies and facilities for senior citizens, the start of a diversional therapy program in nursing homes, consultation with industry on jobs for older people, and the securing of a grant to finance a study of chronic illness, convalescence, and rehabilitation services in the community. Recently the Council initiated an information and referral service for the aged. These functions are on a trial basis to determine their effectiveness and scope.

APHA Expands Program

Three years of Foundation assistance to the American Public Health Association has, in part, enabled this organization to strengthen and extend
its program in accordance with recommendations of the "Arden House Report" emanating from a national conference of four years ago. Compared to a professional staff of three in 1957, the Association now employs seven professional persons to fulfill its national responsibilities to its members, to public health workers in general, and to the public. In addition, several people are engaged in special studies being conducted by the Association. Full-time staffing of the Committee on Professional Education has made possible the provision of curriculum consultation in the public health aspects of veterinary medicine and optometry and the establishment of new policy and improved procedures for accrediting schools of public health. It has also facilitated the sponsorship of a joint committee of the APHA, the Association of State and Territorial Health Officers, the Association of Schools of Public Health, the Canadian Health Authorities, and the U.S. Public Health Service to initiate a comprehensive study of graduate education in public health. Other dividends from the staffing have been the beginning of significant activities in continuing education and the establishment of a clearing house of information on educational programs in the professional field. Intensive efforts to strengthen the affiliated societies and regional branches of the Association have brought about better understanding of the values of membership in the APHA as well as a greater appreciation of the organization's services. And with the adoption of new policy statements on subjects such as the role of public health in medical care, population growth and control, and on the relationship of smoking to lung cancer, the Association has developed for the first time a comprehensive declaration of public policy.

The demonstrations of effective regionalization of Association activities through the recent opening of a Western Branch Office stimulated serious consideration of establishing offices in other regional areas. In launching an office in Washington, D.C., with a full-time representative, the Association has been better able to keep abreast of legislative problems and to furnish professionally competent consultation to Congress on matters pertaining to health legislation. In addition to serving the Southern branch of the Association, the Washington representative acts as liaison between the Association and the federal health agencies.

In improving and extending its services the Association has made much progress toward its reorganization objectives. The basic remaining problem is that of financing the broadened program. A beginning in this direction indicates possible future success in augmenting financial resources through governmental, industrial, and other agency memberships. Some increase in income resulted from an increase in individual membership dues. However, more time will be needed to stabilize the financial structure.
Continuing Education

The Columbia University School of Public Health and Administrative Medicine has completed the third year of the development of a program of continuing education for official and voluntary health agency personnel. The objective of the School has been to establish a permanent educational service to professional people occupying responsible positions in public health by helping the individual worker become better prepared for his tasks and also to refresh him in various aspects of his basic education. Largely through short-term institutes, educational opportunities have been provided for public health physicians, nurses, engineers, and others in the New York State and local departments of health. The School is developing relationships with agencies outside New York State so that it may serve as a regional center. Continuing education for hospital personnel, including extension-correspondence facilities, are also being offered as a part of this program by the School of Public Health and Administrative Medicine.

INSTITUTE OF AGRICULTURAL MEDICINE

Unique in the United States is the Institute of Agricultural Medicine dedicated to the prevention or mitigation of diseases and hazards within the farmer's environment. As far as is known, there are only three similar organizations in the world, one in Poland, another in Argentina, and one recently formed in France.

Nearly five years ago the Foundation made a grant to The State University of Iowa to establish on its campus the Institute which, while operating solely in Iowa, is conducting studies and communications increasingly important to the health of much of rural America. Located in the College of Medicine of the University, a staff of medical, veterinary, agricultural engineering, and educational personnel disseminates an almost unceasing flow of research findings relative to farm-associated illnesses and accidents.

Iowa and its professional and occupational groups have been most generous in their collaboration with this organization. The medical society in each of the ninety-nine counties of the State has appointed a liaison physician to convey information from the Institute's laboratories to all physicians in the particular county. Especially significant test results are carried in national as well as state medical journals. Relative to matters overlapping its chief interests, Iowa State University at Ames extends to this Institute of its sister University certain laboratory, agricultural engineering, farm extension, and biostatistical aid. Farm organizations and the agricultural press, both state and national, have encouraged the organization in the development of new ideas and in the purveyance of the ideas to farmers. The farmers themselves have shown appreciation of this educational and research center
concerned with their occupational health problems. There has been much demand from rural areas for information respecting diseases communicable from animals to man, antibiotics for farm animals, precautions for the handling of farm chemicals, and relating to ideas and devices which may reduce the danger incident to the farmer's almost daily use of agricultural machinery.

*Foundation Supports Safety Information Program*

Although many of the activities of the Institute are now supported by University funds, the Foundation in 1958 granted to the Institute additional money for the development of a Safety Engineering Section. The new Section is featuring an educational approach to farm safety with emphasis upon the human factor in the agricultural environment. In numerous studies, the Institute's agricultural engineers are stressing the industrial hygiene approach — an evaluation of the environment of the farmer, and, from that evaluation, to create better working and living conditions for him. The studies include the testing of farm implements and conferences with machinery manufacturers to point out what is safe and what is perilous from the standpoint of farm operators. Examples of the effort and the human stakes involved include the revelation by an Iowa City physician that he has treated four farmers, each of whom lost an arm in a certain brand of corn picker because of a gear which maimed them when they attempted to clean the device of debris. As a result of evidence transmitted by the Institute to the manufacturer, a guard has been placed over this dangerous gear.

Although there is no great profit margin in farm machinery, manufacturers usually are willing to add protective devices when shown the necessity for equipment changes. During its initial eighteen months, personnel of the Safety Engineering Section of the Institute have been in periodic contact with safety committees of the various farm industries, this in conjunction with the American Society of Agricultural Engineers. Other collaborators in the educational approach toward the mitigation of farm accidents and illnesses are numerous voluntary organizations as well as various health departments and chambers of commerce.

*Three Major Activities in Progress*

The Safety Engineering Section currently is concentrating upon three major activities. That occupying the most time is a study which concerns accidents to farm people in the operation of farm tractors on the highway, particularly collisions between the tractors and passenger motor vehicles. The Section is seeking ways to prevent these collisions and is analyzing the reasons why these farmers have to use tractors on the highway and why these machines are involved in accidents.
**S.U.I. Scientists Feel Q Fever Exists in Iowa**

**Institute of Ag Medicine Studies Farm Health, Safety**

By Paul Andre.

**Gadget Called 'Hand Saver'**

Harry W. Solck, of Coralville, has invented a cornpicker cleaner which he said will completely protect the user from injury.

The reasoning behind the claim is sound—unless the farmer wants to take a chance of damaging his pickers, he will turn the machine off before using Mr. Solck's "Hand Saver."

Mr. Solck has produced about 24 of the iron gadgets in his small metal working shop in northeast Coralville. He has applied for a patent on the device and is starting to sell them.

**Hand Surgeons, Meeting at S.U.I., To See Corn Picker**

**Unmuffled Motor Can Damage Sensitive Ears—Report on Tractors, Hearing Loss**

**Farm Life Problems Under Study By SU**

**New Farm Hazard; 'Silo Filler's Disease, Subject Of Talks Here**

**PRESS COVERAGE** of the program of the Institute of Agricultural Medicine has included many newspapers and agricultural and medical journals. The "clip sheet" above suggests the types of stories carried.
A second important study has reference to poisoning hazards associated with the use of agricultural chemicals in the storage of grain. The Institute is attempting to devise a way of sampling atmospheric conditions under which farm people are applying these chemicals — how much exposure, how much chronic poisoning, how much are the thinking processes slowed by the inhalation of fumes and gases. Because tolerances vary with human subjects, there largely are only hypotheses and little factual information concerning the effect upon farmers. Examples of another danger to agricultural populations are the chemicals used to stimulate cattle and poultry growth and suspected to be cancer-producing, and chemical cranberry
sprays. The worry about cranberry consumers at the 1959 Thanksgiving season will be recalled but it may not be remembered that there was little concern shown about the effects upon farmers who had barrels of the chemical around and which perhaps splashed upon them in applying the chemical to their crops. Rashes from weed sprays and insecticides are another farm occupational hazard of this type.

A third study well under way is the relationship between the high noise level of much agricultural equipment and the loss of hearing on the part of farmers. It is known that the decibels are much greater in the course of an eight-hour day of operating a tractor than would be tolerated by industry in a manufacturing plant. What can be done to reduce the noise factor? What precautions against noise can be taken by the farmer-operator?

From the "Old Swimming Hole"

The Infectious Diseases Section of the Institute is particularly alert to animal diseases transmissible to men — particularly Q fever; Bat Rabies; Toxoplasmosis; Ringworm; Tuberculosis; and Leptospirosis.

The last-named disease, distressing if not dangerous to humans and tending to cause abortions in cattle, was the source of an epidemic spread by water in streams and "old swimming holes" in the Cedar Rapids, Iowa, area during a recent summer. After physicians reported the epidemic to the Institute, its laboratory conducted an average of 150 tests a day, for five days a week, for two years, finding positive cases in about three per cent of the testings. The medical profession was alerted to the possibility of cattle transmitting the disease via water to human beings. Newspapers, Sunday supplements, and farm journals carried the word to farm and rural families to, stay away from suspicious swimming holes. Members of the Institute staff talked to meetings of physicians, and the word spread from Iowa through medical meetings, papers, and medical conferences so that physicians in a number of states are now cognizant of the symptoms of the disease, the possibilities of transmission, and known methods of precaution.

In addition to wide newspaper coverage in Iowa, articles and items concerning the Institute and its unique program have been carried by such representative agricultural publications as Capper's Farmer, Farm Journal, Iowa Farm Bureau Spokesman, The Furrow, Successful Farming, and Wallace's Farmer. Medical journals covering certain features of the Institute program have included Industrial Medicine and Surgery, Iowa State Medical Society Journal, Journal of the American Medical Association, Journal of the American Osteopathy Association, Journal of the American Veterinary Medical Association, Medical News, and Public Health Report.
The farmer, as both Management and Labor in a capitalistic enterprise, is constantly called upon to make quick decisions — some knowledgeable and some not. Where machinery and other occupational hazards exist, resultant injuries and illnesses are often shrugged off with “Should have known better.” It is the function of the Institute to help the farmer “know better,” that he may live a more healthful and productive life because of information as to hazards and precautions to guard against potential ill effects. Real strides are being made in this direction as the Institute discovers and disseminates data useful to the farmer and those who serve him.

PROGRAMS CURRENTLY BEING ASSISTED IN MEDICINE AND PUBLIC HEALTH

CANADA

COMMUNITY HEALTH ADMINISTRATION STUDIES, University of Toronto, Ontario
To assist in the development and conduct of community health administration studies.

GRADUATE AND POSTGRADUATE MEDICAL EDUCATION, Dalhousie University, Halifax, Nova Scotia; University of British Columbia, Vancouver
To aid in the development of comprehensive programs in graduate and postgraduate medical education.

UNDERGRADUATE MEDICAL EDUCATION, Dalhousie University, Halifax, Nova Scotia; University of Toronto, Ontario
To strengthen the teaching programs and staff.

LATIN AMERICA

COLOMBIAN ASSOCIATION OF MEDICAL SCHOOLS, Cali
To enlarge the scope of the Colombia seminar on the teaching of internal medicine by providing for the attendance of medical educators from other Latin American countries.

EQUIPMENT AND TEACHING AIDS, University of Bahia, Salvador, Brazil; Catholic University of Chile, Santiago; University of Concepción, Chile; University of Antioquia, Medellín, Colombia; University of El Valle, Cali, Colombia; University of El Salvador, San Salvador; University of San Luis Potosí, Mexico; University of Asunción, Paraguay
To provide equipment and teaching aids to augment the teaching and research programs of medical schools employing former Fellows.
Experimental Departmental Teaching Programs, University of Chile, Santiago; University of Mexico, Mexico City; University of Michoacán, Morelia, Mexico; University of Nuevo León, Monterrey, Mexico; University of San Marcos, Lima, Peru

To improve medical education through demonstration projects by supplementing faculty salaries to permit full-time instruction and by furnishing equipment for teaching and research.

Fellowships, University of Bahía, Salvador, Brazil; University of Recife, Brazil; University of Rio Grande do Sul, Porto Alegre, Brazil; University of São Paulo, Brazil; Catholic University of Chile, Santiago; University of Chile, Santiago; University of Concepción, Chile; National University of Colombia, Bogotá; University of Antioquia, Medellín, Colombia; University of Costa Rica, San José; Institute of Nutrition of Central America and Panama, Guatemala City; University of San Carlos, Guatemala City; University of Michoacán, Morelia, Mexico; University of Nuevo León, Monterrey, Mexico; University of San Luis Potosí, Mexico; University of Panama, Panama City; National University of Asunción, Paraguay; University of San Marcos, Lima, Peru

To provide opportunities for selected faculty members to obtain specialized preparation in the United States as a part of cooperative programs to improve medical education.

Improvement of Clinical Instruction and Practice, University of Bahía, Salvador, Brazil; University of Rio Grande do Sul, Porto Alegre, Brazil; University of Antioquia, Medellín, Colombia; University of San Marcos, Lima, Peru

To assist in modernizing clinical instruction and practice and to furnish equipment for teaching and research.

UNITED STATES

American Public Health Association, New York

To assist the Association in reorienting and expanding its program of services to the public and to the public health profession.

Association of American Medical Colleges, Chicago

For the support of operational studies of education, research and service aspects of American medical schools.

To aid an analysis of the costs and income involved in undergraduate medical education.

For support of a study of the internship in medical school-controlled hospitals.

Columbia University, New York

To help establish continuing education programs for hospital, official, and voluntary health agency personnel in the Mid-Atlantic and New England areas.
COMMUNITY HEALTH ADMINISTRATION STUDIES, California Department of Public Health, Berkeley; Florida State Board of Health, Jacksonville; Johns Hopkins University, Baltimore, Maryland; University of Michigan, Ann Arbor; Washington State Department of Health, Olympia

To assist schools of public health and official health agencies in developing and conducting community health administration studies.

COORDINATING COUNCIL FOR THE AGING of Grand Rapids and Kent County, Michigan

To assist in the development of a comprehensive program on problems of the aging.

EDUCATIONAL COUNCIL FOR FOREIGN MEDICAL GRADUATES, Chicago

To help establish a service to examine the qualifications of foreign medical graduates wishing to come to the United States for a period of training as interns or resident physicians in hospitals.

GRADUATE AND POSTGRADUATE MEDICAL EDUCATION, University of Colorado, Denver; Baltimore, Maryland, City Hospitals; University of Wisconsin, Madison

To improve medical services through the strengthening of university graduate and postgraduate educational programs.

SCHOOL OF THE BASIC MEDICAL SCIENCES, University of New Mexico, Albuquerque

To assist in establishing a school of the basic medical sciences through the employment of teaching personnel and construction of a facility.

SIGHT CONSERVATION, American Printing House for the Blind, Louisville, Kentucky

To develop sensory aids for the partially sighted and the blind.

TEACHING OF PREVENTIVE MEDICINE, State University of New York, Syracuse; Union University-Albany Medical College, Albany, New York; University of Louisville, Kentucky; University of Maryland, Baltimore; University of Oklahoma, Oklahoma City; University of Utah, Salt Lake City; Vanderbilt University, Nashville, Tennessee

To assist in development of new teaching methods and to expand the content of programs for the teaching of preventive medicine.

THE STATE UNIVERSITY OF IOWA, Iowa City

To aid the establishment of the Institute of Agricultural Medicine for research and communications directed to the prevention of diseases and hazards associated with the farmer’s environment.

UNIVERSITY OF KANSAS MEDICAL CENTER, Kansas City, Kansas

To help develop the technological aspects of television for improved teaching of diagnostic, therapeutic and other clinical procedures, and to evaluate the use of television as a medical teaching medium.

UNIVERSITY OF MICHIGAN, Ann Arbor

To assist in a program for the training of teachers in the area of human genetics.

UNIVERSITY OF PENNSYLVANIA, Philadelphia

To assist in evaluating the periodic health examination as an instrument for the detection of disease and the promotion of health.
Supply and Demand Influences upon Dentistry

Dentistry is rapidly approaching one of the most critical periods in the history of this comparatively young profession. Population growth, increasing demand for dental care, and rising costs of health services are among the major social trends exerting increasingly profound influence upon the dental profession, particularly in the United States and Canada.

As the supply of dentists falls behind the expanding population, and as a steadily enlarging segment of the public seeks regular dental care and more convenient methods for its financing, the problems created by this imbalance become more complex and critical. Dentists search diligently for ways to serve additional patients, while striving to maintain and improve the qualitative level of their services. Educational insti-
tutions appeal for financial support to expand their facilities to produce more dental graduates and auxiliary workers. Public health departments urge the adoption of community fluoridation and other preventive measures to reduce the high incidence of dental disease. And researchers meticulously explore possibilities for increasing the efficiency of dentists, dental materials and equipment, as well as ways and means of preventing or controlling dental disorders.

The general public is inclined, however, to be impatient about finding solutions to such problems and tends to look for "short cuts." Thus, in a number of our states and in several of the Canadian provinces, legislation has been proposed to authorize certain dental services or appliances (for example, artificial dentures) to be provided directly to the public by laboratory technicians or other non-professional personnel.

Such proposals seem to reflect a lack of appreciation of the complexity and health significance of these dental services, as well as a desire to increase their availability and lower their cost. They constitute a very serious challenge to the dental profession and a real threat to the high standard of quality that has caused American dentistry to be generally recognized as pre-eminent throughout the world.

A Survey of Major Trends

Many of these problems of dentistry, which yearly are becoming more crucial, have been the direct or indirect target of projects that the Foundation has been supporting in recent years. Foremost among these is a recent national Survey of Dentistry — a comprehensive and independent study of the major trends and needs of education, research, health, and practice in this field. Conducted under the auspices of the American Council on Education, during the past two years, the Survey was completed in the fall of 1960 and its findings and recommendations are contained in a series of reports which are available through the American Council’s offices in Washington. This project is reviewed in greater detail in later pages while all aided programs not described in this chapter are listed, along with a statement of purpose, at the conclusion of this dental section.

Support for Dental Hygiene

Regional surveys of dental manpower resources and needs, supported in part by the Foundation, have pointed to the urgent need during the next decade to increase drastically the supply of dentists and dental hygienists. In following through on these studies, the Foundation during 1960 provided assistance for the establishment of two-year programs for the training of dental hygienists at the University of Rhode Island and at Loyola University in New Orleans. To help strengthen standards of dental hygiene education, aid has been given to the American Dental Hygienists’ Association for de-
IN A BELIEF that the shortage of dental practitioners may be alleviated by properly trained and supervised auxiliary personnel, the Foundation is aiding several new programs to train dental hygienists. Pictured here is a hygienist preparing to X-ray a child patient's teeth.

Development of a national program of achievement testing for students and graduates in this field. This program, it is believed, may also lead eventually to the creation of a National Board examination in dental hygiene which will facilitate interstate movement and improve geographic distribution of dental hygienists. An aptitude testing program for applicants to dental hygiene schools, also developed by the Association with Foundation aid, is now well-established on a national scale and is contributing effectively to the better selection of students and to reduction of student drop-outs.

Aid Teacher-Training

As new dental schools are created, and existing schools expanded, to meet the need for more dentists, the present shortage of qualified dental teachers may be expected to become even more acute. To help alleviate this problem, the Foundation has provided financial assistance to the Universities of Michigan and Illinois, and to New York University, for the development of dental teacher-training programs. Supplementing the tradi-
THE UNIVERSITIES of Illinois and Michigan and New York University are developing dental teacher-training programs to serve the pedagogical training needs of students preparing for teaching careers in the field. Shown is a faculty seminar which was a part of the in-service education for dental instructors made available by the School of Dentistry of the University of Illinois.

In dentistry's efforts to cope with the many problems facing it today, the dental schools play a vital role. The schools are constantly called upon to assume responsibilities of professional leadership and technical expert-ness, in addition to the day-to-day demands of their regular programs of education and research. Many of their contributions at the national level are channeled through their professional organization, the American Association of Dental Schools. To strengthen the Association, by the establishment of a central office and full-time staff, the Foundation is currently contributing a part of the necessary increase in budgetary support. Also, for several years similar aid has been given to the Canadian dental schools through support of a national program of consultation and accreditation conducted by the Canadian Dental Association's Council on Dental Education, and by grants to strengthen the teaching staffs and facilities of individual schools within the Dominion.

The shortage of practitioners in the less populous areas and communities, a long-standing problem in dentistry as well as other health disciplines, is the focus of another Foundation-aided project sponsored by the Michigan Health Council. By establishing a dentist-placement service, the Council is endeavoring to bring together dentists and communities "in need of each other." Also directed toward the dental personnel needs of less populous areas is a program of continuing education for practicing dentists.
in New Mexico, whose remoteness from any dental school prompted the development, with Foundation assistance, of an effective and popular extension-type educational program under the auspices of the University of New Mexico.

Costa Rican Aid Typifies Latin American Support

One of the Latin American institutions that has had Foundation assistance in support of its steady improvement is the Dental School of the University of Costa Rica. It is a good example of the type of professional school in Latin America that has enlisted the Foundation’s help for a program of progressive curriculum development.

With the counsel of a United States professor whose visit to Costa Rica was financed by the Foundation, this small school laid out a realistic plan for a logical sequence of improvements. A time schedule was established for the gradual reorganization of the curriculum, introduction of new teaching methods, and acquisition of additional equipment as needed for faculty and

DENTISTS are finding it increasingly difficult to keep currently informed and up-to-date because of the new knowledge, techniques, and materials available each year. Short postgraduate courses such as illustrated below are reaching a sizeable and increasing number of the profession.
CHILDREN'S DENTAL CLINIC in the School of Dentistry of the University of San Carlos in Guatemala. A Foundation grant is aiding the teaching program through equipment for the Clinic and Audio-visual instruction, and funds to provide two half-time teachers in oral surgery and periodontics.

students. Also involved were construction of a new building, greater use of faculty committees, adoption of criteria for selection of entering students according to ability and aptitude, extension of the curriculum to include postgraduate courses, and possibly the establishment of a training program for dental hygienists. Some of these objectives could be attained in a short time; others would naturally take longer.

An immediate step under the new plan was the appointment of a full-time Director of Clinics and two half-time professors in the Departments of Prosthodontics and Periodontics. This was a departure from the old system in which instructors were required to devote only a few hours a week to their teaching duties. Foundation assistance enabled the school to make this essential step toward fulfillment of the broad plan of development. Thus the new Director of Clinics has a responsibility for full-time administration and coordination of the entire program of clinical teaching, under supervision of the Dean. In effect, he serves as an assistant dean in charge of clinic administration. The two half-time professors, in addition to improving the teaching of their own departments, also provide strong support for the general integration of the curriculum by the entire faculty.

Other help extended to this school by the Foundation has included fellowships for faculty members to have advanced training in the United States, and the provision of equipment for certain of the basic science and clinical departments. With cumulative effect, this aid appears to be contributing to the sound development of the teaching program. Faculty mem-
bers who have held Foundation fellowships are among those who are exerting leadership in the planned development of the school. Their participation in that process is illustrative of the cooperative program with several schools through which the Foundation is aiding the progress of dental education in Latin America.

A NATIONAL SURVEY OF DENTISTRY

At the time the American Council on Education was requested by the American Dental Association to undertake a two-year national survey of dentistry, the Council's President, Dr. Arthur S. Adams, referred to the study as follows:

"... as important to dentistry in all its aspects as the Flexner Study in 1910 was to medicine. Its assessment of the achievements, resources, and problems of the dental profession will enable the determination of desirable areas of future development and the recommendation of methods for the better presentation of an essential service to the American people."

The decision concerning the Survey reflected a growing belief of the dental profession that the time had come for a much-needed analysis of the major problems, trends, and needs of dentistry. The tremendous changes and advances in the field practically dictated a comprehensive study of the profession's status and future, the public's dental health problems and concurrent attitudes, as bases for intelligent, long-range planning in the interests of the public.

A Growing Need for a National Survey

Some of the facts and problems that prompted many professional organizations and agencies to concur in the need for such a nation-wide study were as follows:

Only about half the people in the United States made a visit to a dentist last year and even less than that percentage see a dentist regularly. The dental care that people seek and receive apparently has relation to their education, income, sex, race, and health knowledge, even though most persons periodically have dental health problems in one degree or another. It is estimated that but 40 per cent of all Americans have adequate dental care while the teeth of perhaps 30 per cent receive virtually no professional attention at all. Even though there has been a rising demand from segments of the public since 1930 — the proportion of people seeking dental services has more than doubled — there remains a great gulf between what is and what should be.

The causes for this gulf are numerous and complex: The current ratio of dentists to population, 1 to 1,900, is far from the ideal and dental school enrollments are not keeping pace with the population rise. Prepayment and
insurance plans for dental care are expected increasingly to accentuate the public demand, thus further affecting the dental manpower shortage. Many dentists overlook opportunities to cope in part with increased clientele through the delegation of routine, sub-professional tasks to auxiliaries. And on the other side of the supply and demand spectrum, too many people remain ignorant of the importance of good teeth to good health and are
apathetic, or even resistant, to preventive and/or therapeutic dental measures.

Foundation Support Enlisted

Because of the costs of the projected survey, leaders in the field of dentistry suggested approaching several philanthropic foundations for financial support of the project. Previously the W. K. Kellogg Foundation had aided Southern, Western, and New England regional studies of dental manpower resources and needs so that the American Dental Association requested a grant of $280,000 to implement the projected two-year National Survey of Dentistry in the United States by the American Council on Education. An additional $135,000 was made available by the ADA, and the remainder was contributed by the Rockefeller Brothers Fund and the Hill Family Foundation for a total two-year survey budget of $445,000.

Because of the time required to select outstanding personnel for the governing Commission, the several advisory committees, and the survey staff, it was not possible to start the study until June 1, 1958, and the project, except for the publications of its findings, was concluded in September of 1960. It is the purpose of this article to bring to you some of the factual and interpretative highlights of the study which had many ramifications. However, the particularly interested reader will wish to refer to the full and unabridged Survey Report or to a shorter volume developed as a summary of the findings and recommendations and prepared in a form and style suitable for the general public. Either of these publications can be obtained through request to the American Council on Education, 1785 Massachusetts Avenue, Washington, D.C.

Eminent Leaders for the Survey

The first Chairman of the twelve-man national Survey Commission, Dr. Arthur Flemming, was appointed Secretary of the federal Department of Health, Education, and Welfare on August 1, 1958, which necessitated his resignation from the governing group for the dental project. He was replaced in September of 1958 by Dr. John A. Perkins, President of the University of Delaware, and former Undersecretary of the Department of Health, Education, and Welfare. The Commission was composed of eminent leaders of general education, management, labor, the dental, medical, and other professions, all voluntarily contributing their time and talents to this broad study.

The plan of the Survey included its division into four major categories: Dental Health; Dental Practice; Dental Education; and Dental Research; and advisory committees were appointed for each of these areas. The section memberships have been broadly representative of dentistry, medicine,
higher education, and the public, thus providing for good balance in giving the dental studies their proper perspective in relation to other disciplines and to the public interest. This is in accordance with the Survey's emphasis upon "the importance of considering dentistry in relation to the welfare of the country and not on the basis of its special needs alone . . . with an awareness of the total problem of health needs in the nation, and taking into account competing demands and needs."

There have followed two years of diligent professional effort. Collection, tabulation, and analysis of pertinent information have engaged the attention of many collaborators. As examples of the activity, the Dental Education Section sent to a representative sample of students, to recent graduates, to boards of dental examiners, to selected university presidents and dental school deans, questionnaires concerning major problems and needs in dentistry. The Research Section gathered and analyzed information on the nature and scope of current research in dentistry, its financing and its influence on dental education, practice, and health. The Dental Practice section sought to develop standards for "minimum adequate" dental care and conducted a study of prepayment dental care programs. This section also made an analysis of the various types of group practice in dentistry and another concerned with state licensure regulations and procedures. The section on Dental Health surveyed the nature and status of dental health programs and analyzed current information on the dental needs of the population at the various age levels.

There also were more than twenty special studies on problems overlapping two or more sectional areas, such as the role of women in dentistry, hospital dental services, internships and residencies, dental care of low-income groups, the role of auxiliary personnel in dentistry, dental care for the aged, and public attitudes toward dental services. The profession's unflagging efforts in this Survey were in the spirit of "We believe that the unsparing criticism we direct at ourselves will keep us from the decadence which ensues when ideas and methods become fixed in tradition."

To Promote Dental Health

The Commission recognized that, for a long time to come, treatment must reinforce prevention in the battle against dental diseases. However, of all known preventive measures, the one offering the most striking benefits in a relatively short time is the fluoridation of drinking water. The Commission was totally unimpressed by arguments advanced by a small minority of people that fluoridation is dangerous, immoral, or unconstitutional. Instead the findings indicated that fluoridation is convenient, inexpensive (about 8 cents per person per year), safe, and demonstrably effective. (There is 60 per cent to 70 per cent less tooth decay among children using
fluoridated water during their dental growth and development period.) The Commission urged that all public agencies and professional societies promote water fluoridation and community topical fluoride programs and that special grants-in-aid be made to states, on a matching basis, to assist communities in meeting the cost of installing fluoridation equipment.

The Commission also stressed that dental health education, which to be effective must begin with small children, should be a systematic year-round effort on behalf of both the young and adults. As a start, it is proposed that states and communities offer free dental inspection to school children, with any expense for treatment that cannot be borne by the parents to be underwritten by private or public agencies. Ways must also be found, through public health or welfare departments, or through private health care plans, to make regular dental care available to indigent and low-income adult groups. Other of the recommendations and findings for Dental Health, only a few of which can even be mentioned here, concern incremental dental care programs for children, adding four million new six-year-olds each year and continuing them under regular care each year thereafter; steps to narrow the gap between the need for prevention and treatment of malocclusion; experimentation looking toward more widespread prepayment and insurance plans covering dental care; and more adequate private and public financing of dental health programs at the local, state, and national levels.

Practitioner the Key Man

The key man in any effort to extend dental care to all the people will always be the general practitioner. If dental care is to be widely expanded, participation by individual dentists in Public Health and Preventive Dentistry must be intensively developed. Only about one-third of America's practitioners participate in school dental health programs and only about 40 per cent in educational campaigns for community fluoridation. Perhaps half of our dentists carry on moderately effective preventive programs including routine cleaning of the teeth, topical fluoride applications, X-ray examinations, periodic diagnostic examinations of patients, and laboratory tests of saliva as a basis for control of dental caries activity. The Survey recommends that dentists put more emphasis upon the preventive aspects of dental practice and further educate their patients in the importance of personal dental health.

The preventive approach in itself, however, cannot be expected as yet to solve the dental manpower problem. More dentist working time must be saved in other ways. To increase the productivity of the dentist, there are two ways that commend themselves particularly to the Commission. These are the establishment of group practices and the wider utilization of
auxiliary personnel — dental assistants, hygienists, and laboratory technicians. The Commission recommends studies designed to develop and expand the duties of auxiliary personnel and expresses the belief that the broadening of auxiliary services should begin with dental hygienists because there already is an approved program of education and licensure for this group. Consideration should also be given, according to the Commission, to expanding the duties of dental laboratory technicians and dental assistants but this only after the educational programs for such personnel are standardized. The expansion of their duties needs to be carried out under the direction of the dental profession and the services performed must be under the supervision of dentists. The many practical and legal problems with respect to dental auxiliaries are discussed at considerable length in the Survey reports.

Considering the whole matter of fees charged by dentists, the Commission recommended that dental schools offer comprehensive courses in practice administration (understanding the dentist's responsibility to the community, the handling of patient grievances, the efficient utilization of auxiliary personnel, more efficient office management) for established practitioners, as well as for undergraduate students; that dental organizations support studies to enable dentists to determine what are proper fees for their various services; that dentists routinely discuss with patients a plan of treatment and provide them with an estimate of fees before beginning treatment; and that local and state dental societies establish mediation committees to adjudicate any disputes that arise between patients and dentists.

With respect to state boards of dental examiners, the Commission found changes to be desired in the administration of licensing examinations. Tests of clinical competence too often stress mechanical skills rather than ability in preventive measures. There is a concern, too, that state examinations do not go beyond passing on the initial competence of a practitioner. There is no way of insuring that a dentist maintains his competence or that he keeps abreast of the scientific advances in dentistry that mount year by year. Therefore, the Commission recommended that every effort be made to improve the quality of state board examinations and to insure the appointment of well-qualified dentists to the examining boards and that state dental laws be amended to make annual renewal of a dental license contingent upon evidence of continued competence — the latter recommendation urging patronage of the hundreds of postgraduate and refresher courses offered every year by dental schools and professional societies as well as self-study by the dental practitioner.

The Commission also believes that if dentistry is to perform its fullest function in bringing total health care to the American people, more dentists must serve on the staffs of hospitals. Noting the relatively few hospital
dental departments, the recommendations are made for the establishment of many more such departments and that all participating dentists be delegated administrative authority and patient care responsibilities comparable to those exercised by other hospital services. Implementing recommendations included those for closer cooperation between the American Dental Association and the American Hospital Association, the representation of Dentistry on the Joint Commission for the Accreditation of Hospitals, and the development of a closer relation between the dental profession and all hospital, surgical, and medical indemnity programs (such as Blue Cross and Blue Shield).

**Present and Projected Dental Education**

The ratio of dentists to population is such as to provide only a third of the people with comprehensive dental care. Ideally, the solution would seem to be to triple the number of dentists. However, with every profession competing for scarce manpower, about as much as can be hoped for realistically is to maintain the proportion of dentists to population at its present level — while increasing the productivity of the practitioner, widening the application of present-day preventive measures, such as water fluoridation, and hoping, through research, for scientific advances that will forestall dental diseases.

To augment dental manpower, the Commission recommends that present dental schools be expanded and new schools be constructed to permit the graduation of at least 6,000 dentists annually by 1975, as compared to about 3,200 in 1960. Also urged is a national recruitment program, including a scholarship and loan phase, so as to attract better students in larger quantities to schools of dentistry. As a corollary, it is stressed that the admission standards of dental schools should be reviewed for the purpose of improving the quality of students admitted.

The Commission was disturbed by the large number (74 per cent) of dental faculty serving only part-time, some 58 per cent on a paid part-time basis and 16 per cent part-time volunteers. Another cause of concern to the Commission was the heavy workloads borne by the typical dental teacher, thirty-seven or more clock-hours of actual teaching plus eight hours of preparation each week, leaving little time or energy for research or for participation in the intellectual life of the university. The Commission asks for more and better teachers and more full-time teachers and that dental schools develop in-service faculty training programs on the fundamental principles, philosophy, and methods of teaching and the various problems facing dental education.
FACULTY SHORTAGES LIMIT DENTAL SCHOOL ENROLLMENTS

Sources: Bureau of Census, November, 1958, population projections (Series III); American Dental Association, Council on Dental Education.
As to the predental curriculum, the Commission found no serious fault with the quality of science work generally offered in the two years of predental education but lamented the fact that the typical pre-dental student enjoys relatively little exposure to the humanities and the social sciences. As to the dental curriculum itself, the Commission — noting that many of today's dentists have a strong craft concept of their profession — asked for more "depth" and less rigidity to the curriculum and, where possible, the institution of honors programs for gifted students. It is also believed that a series of institutes for dental teachers should be arranged as a basis for improving the content and correlation of dental education. Further, every dental school should make an evaluation of its teaching and greater financial support should be given to the Council on Dental Education so that the Council may perform its many functions, including the accreditation of dental schools, more effectively.

In the realm of financing dental education, the Survey Report notes that dental education receives about $20,000,000 a year in operating support from outside sources, mostly from public support or endowment, and estimates this should be increased by approximately $53,000,000 by the early 1970s. In addition, $250,000,000 should be provided over the next ten years for remodeling or expanding old schools and building new ones, in excess of the approximately $10,000,000 now available annually for capital purposes. It is believed that universities, by assuming greater financial responsibility for their dental schools, could establish a climate of support more alluring to other potential donors such as business corporations, foundations, alumni and other individuals not now contributing to any significant extent. Because of the importance of dental education and research to the welfare of the nation, greater financial support should be contributed to dental schools by alumni of dental schools, benefactors, business corporations, and state and local tax bodies.

Since these sources of income, even if tapped to their limits, would seem insufficient for the task ahead, the Commission notes that a majority of dental educators favor federal support if it is granted in accordance with the official position of the ADA that such aid should not interfere with admissions policies or curriculum content. Thus, the Commission agrees that the federal government should provide funds for operational expenses, as well as for new construction and remodeling.

Research an Avenue Toward Prevention

Of all avenues leading toward the prevention of dental disease, the most hopeful is research. As an example, a means of preventing or reducing periodontal disease would do more for oral health than several thousand practitioners of restorative dentistry. Yet, in terms of time and money spent,
dental research has for years lagged seriously in proportion to its potential contribution and to the amount of research support in related fields such as medicine.

Annual expenditures for dental research have increased steadily for the past thirty years, but still totaled only about $10,000,000 last year, a minute fraction of the annual expenditures of two billion dollars for dental treatment. So serious is the lag in dental research efforts that the Commission believes the research potential of existing dental schools could be considerably expanded even before any new schools are created. Universities should assume more responsibility for the promotion of close relations between dental schools and the graduate departments and other health science schools in order to further cross-fertilization of ideas. Faculty interest in research must be stimulated and staffs enlarged to provide more time for those wishing to engage in research. Substantial funds should be made available for the recruitment and training of competent scientists from dental and other scientific fields to do research in dental schools. The financial support of dental research by the federal government, philanthropy, and corporations should be steadily increased. Federal grants-in-aid should be made available for dental students on the basis of merit and need, as now made to graduate students in other specialized fields. Dental research efforts should be broadened to include more projects in the social sciences, and the communication of research findings to dental teaching and practice should be greatly accelerated. Federal and other funds should be made available to disseminate dental research information through publications, seminars, and institutes.

An Especially Timely Survey

In summary, the main purpose of the National Survey of Dentistry was to bring to the foreground the problems to be overcome and the attitudes to be changed in order that there may be significantly increased the number of Americans getting comprehensive dental care, with a consequent improvement in the dental health of the public. In view of the growing public acceptance of dentistry as an essential health service, the critical problems of manpower shortage, and the inadequate dental education facilities, it appears that this broad study of dentistry is especially timely. If, as anticipated, the findings and recommendations bring about desirable changes and improvements, the people will then derive substantial benefits, both direct and indirect, from these critical analyses of dental education, research, practice, and public health.
PROGRAMS CURRENTLY BEING ASSISTED IN DENTISTRY

CANADA

Canadian Dental Association, Toronto, Ontario
To assist the Council on Dental Education to develop a program of accreditation and consultation services for Canadian dental schools.

Dalhousie University, Halifax, Nova Scotia
To assist in strengthening the teaching program of the Faculty of Dentistry and to encourage the development of regional planning and support for dental education by the Maritime Provinces.

McGill University, Montreal, Quebec
To strengthen teaching in the Faculty of Dentistry by the addition of two full-time teachers.

LATIN AMERICA

Brazilian Dental Education Association, São Paulo
To help improve dental education in Brazil by providing assistance for short post graduate courses to be given by Brazilian and U. S. professors for faculty members of the Brazilian dental schools.

Fellowships, University of Rio Grande do Sul, Porto Alegre, Brazil; University of São Paulo, Brazil; University of Chile, Santiago; University of Concepción, Chile; National University of Colombia, Bogotá; University of Antioquia, Medellín, Colombia; University of Costa Rica, San José; University of San Carlos, Guatemala City; University of Guadalajara, Mexico
To provide opportunities for selected faculty members to obtain specialized preparation in the United States as a part of cooperative programs to improve dental education.

University of Antioquia, Medellín, Colombia
To strengthen the teaching program by providing equipment and visiting professors according to a general plan for the improvement of the Dental School.

University of Chile, Santiago
To strengthen the teaching program by providing necessary equipment and materials for the Departments of Oral Pathology, Prosthodontics, and Microbiology.

National University of Colombia, Bogotá
To help strengthen the teaching program by providing equipment, visiting professors and salary supplements for four half-time professors.
University of Costa Rica, San José
To assist in strengthening the teaching program by providing equipment, fellowships and salary supplements for one full-time and two half-time professors.

University of San Carlos, Guatemala City
To help strengthen the teaching program by providing equipment for a children's clinic and for audio-visual training, and salary supplements for two half-time professors in oral surgery and periodontics.

University of São Paulo, Brazil
For assistance toward the development of a program for the training of dentists in public health and preventive dentistry.

UNITED STATES

American Association of Dental Schools, Chicago, Illinois
To advance dental education through aid toward the establishment of a central office with a full-time staff for more effective Association services to its members.

American Council on Education, Washington, D.C.
To assist in the organization and conduct of a national survey of dental education, dental research, dental health, and dental practice.

Dental Hygiene Achievement Testing, Educational Trust of the American Dental Hygienists' Association, Washington, D.C.
To assist in the development of a nation-wide achievement testing program for students and graduates of schools of dental hygiene.

Dental Teacher Training, New York University, New York; University of Illinois, Chicago
To assist in the development of experimental educational programs for the training of dental teachers.

Establishment of Dental Hygiene Education Programs, Loyola University, New Orleans, Louisiana; University of Rhode Island, Kingston
To aid the establishment of new dental hygiene education programs as a means of alleviating the dental personnel shortage in critical areas.

Michigan Health Council, East Lansing
To help establish a program for the placement of new dental practitioners where needed in Michigan communities.

New Mexico Department of Public Health, Santa Fe
To assist in the development and evaluation of an experimental continuing education program for practicing dentists of New Mexico.
Identified Problem Areas in Nursing

NURSING has been defined as a health service to individuals and to families, and, therefore, a promotion of human and social welfare. The educational preparation for nursing includes selected learning experiences from the arts and sciences which mold attitudes, intellectual competencies, and technical skills of the student into the desire and ability to care for those who are ill, and to assist those sick or well to cope with their health needs.

The services of nurses include recognizing the nursing problems of patients and deciding the appropriate course of action based on the relevant principles, and providing continuous care to relieve pain and discomfort, thus contributing to the security of the individual. Also involved are the adjustment of the total
nursing care plan to meet the needs of each patient; helping the patient to achieve greater self-direction toward health and to learn to adjust to his physical limitations; cooperating with the allied professions toward optimum health programs on the local, state, national and international scenes; and carrying on continuous evaluation and research for the improvement of nursing education and service.

Although there are more nurses today than ever before, the nursing profession continues to be plagued by many difficult and perplexing problems. Despite the large number of nurses, there is an acute shortage of nursing personnel, and one of the major problems is the provision of nursing services to an expanding population without sacrificing the quality of this care. Nearly 62 per cent of all active state-registered nurses are employed in hospitals, where the majority are engaged in activities directly related to the care of patients. Nevertheless, from a sampling of hospitals in 1958 it was found that eleven per cent of the full-time hospital positions for nurses were unfilled. The greatest number of these vacancies were in staff or bedside care positions.

A Multitude of Professional Tasks

It is the responsibility and privilege of the nursing profession to prepare faculty for schools of practical nursing, schools of nursing in hospitals, associate degree nursing programs in community colleges, baccalaureate degree programs in universities and colleges and graduate education programs to develop specialists for nursing education, nursing service, and nursing research. Few other professions are faced with educational tasks of such magnitude. A current challenge is that for the preparation of more and better qualified teachers and supervisors. Then, there are rapid changes in medical care which affect the nursing care of patients, and there occur innovations in the organization and administration of hospital services to which nurses must adjust. For example, the grouping of patients in the hospital by degree of illness is a new concept of patient care which directly affects educational programs in nursing as well as the organization and administration of the nursing care services to patients both in the hospital and in the home.

These newer concepts must be built into the preservice programs in nursing if the graduates of schools of nursing are to work effectively in the environment of patient care. Collegiate schools of nursing need to prepare students for first-level leadership responsibilities which include assisting with the supervision of semi-professional, vocational, and non-professional nursing service personnel as well as giving skilled nursing care to selected patients. The head nurse on the typical hospital unit has neither the time nor the skill to provide the kind and amount of supervision needed for the various types of nursing personnel assigned to the hospital unit. Well-
A DEMONSTRATION at a National League for Nursing institute on the simplified method of teaching nursing skills. The Foundation has cooperated with the League in its wide efforts to build new concepts into the educational preparation of nurses.

prepared and capable staff nurses, particularly those who have received their basic preparation in an accredited collegiate school of nursing, should be able to assist the head nurse with the supervision of semi-professional and auxiliary nursing personnel.

The professional nurse of today should be capable of giving skilled nursing care to persons who are ill in the hospital or the home; of appraising the nursing needs of a group of patients assigned to her for care; of working with other members of the nursing care team in meeting the physical and emotional needs of patients; and of re-appraising at periodic intervals the effectiveness of the nursing care in terms of the observable behavior of the patients. Concurrently there should be meaningful narrative recording of the nursing care activities which includes the responses of the patients to this care.

Educational programs at the preservice level need to become more creative and dynamic if the profession is to attract students possessing innate capacities for professional practice and leadership. The recognition and development of leadership abilities of students requires creativity and imagination on the part of the faculty of the schools of nursing.

Four States Develop Community College Nursing Education

The Foundation periodically reviews the nursing situation in a country and develops its aid to programs around identified areas of need. In the
United States, the Foundation is assisting four states — California, Florida, New York, and Texas — to strengthen existing programs and to develop new preservice education programs in nursing at the junior community college level leading to an Associate Degree. These efforts, on statewide bases, offer new approaches to the teaching of nursing. The curriculum is approximately fifty per cent general education and fifty per cent nursing. The learning experiences in the professional courses are patient-centered. Such courses include supervised clinical experience which begins early in the first year.

The greatest problem encountered so far in these programs is the scarcity of nurses qualified for faculty positions. Once these persons are found it is usually necessary that they have an orientation program to acquaint them with the philosophy and administration of the community college, and of the associate degree program in nursing.

The traditional concept of the disease-centered approach to the teaching of nursing has changed to the patient-centered approach in which the nursing skills and understandings are taught in direct relation to the particular patient to whom the student is assigned for nursing care. Principles from the general education courses are also applied to the nursing care situation during the students' patient care assignments. Experience to date indicates that the graduates of the associate degree programs show promise of becoming good patient-side nurses. Hospital nursing service personnel need to become oriented to the objectives and educational pattern of these new programs in order to create a favorable climate for the optimum use of graduates of the Associate Degree programs. Further, it will be necessary for hospital nursing services to provide skilled supervision to the new graduates of these programs so that they may continue to learn on-the-job in an atmosphere fostering quality nursing care for patients.

Nursing programs in community colleges offer many opportunities to teachers of nursing who are imaginative and creative. These programs provide challenges to curriculum research and development which could exert a wide influence on the teaching of nursing generally. Urgently needed, for example, are instructional materials which reflect new approaches to the teaching of nursing.

In each of the four states being assisted by the Foundation there is provision in the nursing programs for consultation from the State Department of Education to the community colleges; a university program at the graduate level to prepare teachers; an in-service faculty education program in the community colleges; and a special center for curriculum research and development of new teaching materials and for field experience by university students preparing to teach in community college associate degree pro-
grams. Of primary importance is the assistance to selected community colleges for a planning year prior to admitting students to a new nursing program of this type.

Need for Dynamic Continuing Education

One of the imperative needs of nursing in these times of rapid change and development in the profession is for a dynamic program of continuing education for all persons actively engaged in nursing service or nursing education. Several programs being assisted by the Foundation are emphasizing this form of educational preparation for practitioners, administrators, and teachers of nursing. Planning in-service education activities may be national, regional, or statewide in scope. Approaches to continuing education in two regions of the United States are described at some length in later pages of this chapter.

In Canada the Foundation is assisting the University of New Brunswick with a regional in-service program which during the past year provided educational opportunities to approximately seven hundred registered nurses whose employers have willingly released them from their regular duties to go to the University center for intensive courses lasting from two to four weeks. In this way many nurses are brought up to date on current nursing practices which will, upon application in their respective positions, serve to improve the quality of services rendered.

Other Aided Canadian Programs

Other aids to nursing by the Foundation in Canada include programs at the University of Western Ontario and at the University of Saskatchewan, each concerning the preparation of head nurses and nursing service administrators. New concepts of leadership roles are being incorporated in efforts of both of the Universities.

At the University of Western Ontario, a program leading to the Master's Degree in Nursing Service Administration is designed to influence a regional area of fourteen counties in which there are 29 general and special hospitals, 20 district hospitals, and one Red Cross outpost hospital. Through the program, nursing service in the hospitals of the area should gradually be improved by the correction of a situation wherein a considerable portion of the nurses employed in top administrative positions lacked formal preparation for such responsibilities.

At the University of Saskatchewan, there is developing a close relationship between those responsible for the nursing care of patients in the University hospital and those implementing programs to prepare persons
for such services. Cooperative nursing research activities are under development, designed to improve education for service and nursing service itself.

A new program at the preservice level is being helped at the University of New Brunswick. There experimental approaches to the teaching of nursing are currently being developed. The curriculum meets the requirements of the University for the baccalaureate degree and, in addition to the professional courses, the students receive a good foundation in general education. It is anticipated that graduates of this School of Nursing will be ready to assume beginning leadership responsibilities.

**Foundation Fellows in Key Latin American Positions**

In Latin America, the Foundation has aided the improvement of nursing education and service, chiefly through fellowships for advanced training in the United States. The awards have helped prepare personnel for much of the significant nursing accomplishment in Latin America during the past decade. Former Fellows of the Foundation are now serving as directors of schools of nursing in Brazil, Chile, Colombia, Mexico, and Paraguay. Many others are in charge of academic departments, and still others have administrative positions in teaching hospitals, governmental services and international agencies. Their work and their influence are helping forge new standards of nursing proficiency which are gradually evolving in Latin America.

**NEW CONCEPTS of nursing leadership roles are incorporated in the program of the University of Saskatchewan for the preparation of head nurses and nursing service administrators.**
One of the recent advances that was made possible through the fellowships and a Foundation program grant is postgraduate nursing education at the University of São Paulo, Brazil. Started in 1959, this is the only full-length postgraduate curriculum of one year in a Latin American school of nursing. Nine of the nurse instructors in this program are former Kellogg Fellows.

The students enrolled in the program concentrate on one of two major fields: nursing service or nursing education. In each field there are courses pertaining to all the principal nursing specialties. In addition, there are related courses for all the students as well as for each of the two separate groups. For example, there are courses in subjects such as educational psychology and the principles of teaching, for those specializing in nursing education, and in subjects such as the principles of hospital and nursing administration, for the other group.

This is a program of wide impact, since the students come from distant localities, are sent on salary from their home institutions or on fellowships or, in the case of nuns, supported by the church. The fact that these potential key personnel can now receive such post-graduate training in a well-developed school of nursing, with a faculty of high caliber, is of real significance for the progress of nursing education and service in all of Latin America.
THE RESIDENCY IN NURSING SERVICE ADMINISTRATION

In the 1940s when W. L. Mackenzie King said that "Little of lasting importance can be accomplished without the guiding genius of administration," he was referring to Capital and Labor. However, this thought is equally applicable to the several professions. Complex efforts require competent guidance which largely must come from well-prepared administrators. Hence, during this same decade of the '40s, Foundation aid was continued toward improving the administration of public health and also to set up university programs to prepare hospital administrators for the United States and Canada and later for Latin America and Australia.

By 1951 assistance with a kindred purpose was extended to North American leaders in the public school and nursing professions. This aid was in keeping with a widely held belief that there are principles of administration common to many fields and that contributions from the social sciences as well as from business administration and public administration, the areas of human relations and of scientific methods management, may greatly affect the efficiency of operations in the spheres of health and education.

Foundation grants during the '50s totaled more than one million dollars in support of the development of Nursing Service Administration Programs in fourteen U. S. universities. Nursing service is an extremely important segment of hospital operations, accounting for some 35 to 40 per cent of the total costs for hospital operation. And in a time of shortage of nurses and with recruiting hampered by competition for womanpower from other professions and industry, improved leadership for the nurses in our hospitals is a significant step toward better health care for the people.

Residency Weds Theory with Practice

Since the days of John Dewey, many educational programs have sought to wed theory with practice and most of the universities having Nursing Service Administration programs include field experience as an important requisite. The academic program helps the student develop an understanding of the basic principles underlying the administrative process while field experience gives her an opportunity to see how these principles are applied in specific nursing situations.

One of the most advanced of such field experience efforts has been at Boston University which has pioneered in the Nursing Service Administration Residency designed to help potential nurse leaders to develop administrative skills from first-hand experience in the hospital situation. Through a full-time hospital assignment of one year the graduate student observes skilled administrators, studies leadership problems on the job, and develops
EXPERIENCES DURING THE DAY OF A NURSING RESIDENT

At Center Left, the Resident hears an explanation of the Diabetic Teaching Program.

At Center Right, the Resident instructs student nurses on the use of Colostomy appliance.

At Bottom, the Resident in the absence of the Director of Nurses, acts on her behalf as a member of the Infectious Disease Inspection Committee.
competencies by actually carrying on "in a protected manner" administrative responsibilities which are part of the hospital's on-going program. After an orientation to the hospital, its history, philosophy, organization, policies, practices, and personnel, the resident is assigned more and more responsibility as she demonstrates her ability. The type and quality of these learning-by-doing experiences are carefully selected and supervised in terms of the needs of the student, the specialization she desires, and the contribution that can be made to the improvement of nursing care.

*How the Residency is Helpful*

Since late 1954 the residency has been an elective part of a Nursing Service Administration master's degree program, occupying a second graduate year at the Boston University School of Nursing. To be admitted to the academic program, all students must have previously completed four years of nursing experience, with a minimum of one year in a supervisory capacity. They must also hold a baccalaureate degree in nursing from a recognized university.

About one-third of these graduate students elect the residency, with the remainder having the briefer alternative of a month of field experience in June. Those who choose the one year of intensive training do so because of a belief that the experience pays off in the higher degree of competency with which they will go into nursing service administration. Selection is involved, for the designation by a special area wide committee of only seven hospitals within the Boston metropolitan area as residency training centers limits the number of residents who can be accommodated within any one year. Criteria for the selection of residents include a superior record in nursing education and nursing service, a capacity for leadership, motivation through high interest and enthusiasm, and a practical consideration based upon ability and willingness to undergo a salary sacrifice relieved only by a modest stipend paid by the cooperating hospital in which she takes her residency.

The *modus operandi* of an administrative residency in nursing is stated by a Boston University graduate, now Assistant Director of Nursing Service for the New England Medical Center, the teaching hospital in which she spent her additional year of training:

"I don't believe I would have learned on the job nearly as much administration as I did through the residency, for I felt protected and this I needed. I had guidance and direction, and it wasn't like being thrown into the water to swim or to sink. During the residency year I attended conferences with medical, surgical, and hospital administration residents and hence was part of a total residency training program. I worked on joint projects with hospital administration students. I observed weekly meetings
of the hospital’s Directors of Nursing Service, General Hospital Service, Library Service, and Business Services. I had the freedom of choosing projects which were of particular interest to me. My functions in the hospital had a dual purpose, an educational experience for me and aid to the administration of the hospital, with the latter justifying the hospital’s stipend of $1,000 paid to me.

“The projects in which I was involved were both major and minor, for the agency hospital strove to give me a balanced picture of administration. I was exposed to problems and thinking toward solutions that gave play to my imagination. I learned how to use resource people and materials, and how different groups in the hospital work together. I learned how to initiate ideas and how to participate in group efforts.”

Discussion Built Around Needs

Having observed the student for an academic year preceding her residency program, the Boston University School of Nursing Staff is well-acquainted with her strengths and weaknesses and, working with her Preceptor at the agency hospital, is able to build the residency around her needs. Every two weeks, back at the University, the residents attend a “Practicum” — a two-hour session during which the nurses discuss the practical problems encountered by them in their residency experience. Preceptors who are usually directors or assistant directors of nursing service for the cooperating hospitals are on hand for at least three of such meetings while several members of the school staff regularly contribute to the bi-weekly discussions. At a typical practicum recently observed, there was a very permissive atmosphere in which five residents and two members of the faculty discussed: a resident’s trip with a hospital committee to inspect “high-low” electrically operated hospital beds; opinions of the rather unique hospital-in-the-round in which the beds were located; a project of another resident who had surveyed the purposes and functioning of committees in hospitals; an analysis of “Patient Accident Data” as compiled by another student over a long period; a resident’s struggle with the problems of budgeting and staffing; and an attempt to devise a better system for securing information involving hours worked by private duty nurses.

Handbook Fully Describes Residency

After some years of experience with the residency program, the University in 1959 issued a Handbook of the Development of Residency Programs which explains, in greater detail than is possible here, the history, philosophy, and methods of the administrative residency in nursing. Discussed in the booklet, still available from this School of Nursing, are: criteria for selection of collaborating hospital agencies; the opinions and experiences of
the ten residents graduated through the 1958-59 academic year and the six
currently enrolled; the excellent cooperation received from hospital adminis-
trators and directors of nursing in the Boston area; the costs of a residency
program, to the University, to the collaborating hospital agency, and to the
student; the subsidy for student tuition through Public Law 911 and the
adequacy of the aforementioned stipend paid by the hospitals; and the
evaluations of the residency as made by students, preceptors, and faculty,
as well as evaluations of each resident made by the Chairman of the Depart-
ment of Nursing Service Administration.

Although Boston University has the only School of Nursing thus far
to offer the nursing residency as the culminating stage of its Nursing Service
Administration program, the Handbook’s story of the results is stimulating
other university faculties to explore the potentialities for residency programs
in their own communities. The graduates with residency experience have
assumed leadership roles as evidenced by the fact that four are hospital
directors of nursing and three are assistant or associate directors of nursing.
One has an appointment on a college faculty and one is on a consultative
assignment in another country. The challenge was to evolve a pattern for a
residency experience which would enrich the total program by allowing the
student to develop and demonstrate actual leadership ability in the adminis-
tration of nursing services within the hospital setting. In great part, this
challenge has been met and as these programs and leaders grow quantita-
tively and qualitatively, so will increase the returns to the public through
better nursing care in the hospitals of our nation.

REGIONAL APPROACHES TO NURSING EDUCATION

Among innovations of the postwar period have been the regional educa-
tional boards, each established within a several-state area to promote higher
education and the area’s economy through the shared use of professional and
graduate educational facilities. The Southern Regional Education Board,
implementing planning and action by sixteen states of the South, was created
in 1949. The Western Interstate Commission for Higher Education, estab-
lished in 1953, now is aiding thirteen Western states (including Alaska and
Hawaii) to cope with problems caused by booming population, demands for
professional manpower, and rising educational costs. The New England
Board for Higher Education since 1955 has similarly provided the legal
machinery for interstate cooperation and has coordinated projects involving
educational institutions in the Northeastern section of the United States.

These quasi-official, regional compact agencies were established by
legislatures of their member states in part because not every state can
provide educational opportunities for its citizens in every professional and
graduate field. Not every state has its own medical and dental schools, or
institutions offering doctoral programs in newly stressed subject areas, or specialized programs such as those to prepare psychiatric social workers, teachers and administrators of nursing education, and teachers of the blind and deaf. To contend with such inequalities, the regional boards enable the states of a region to pool their educational facilities, to set up contract programs for student-exchange programs in certain professional fields, and to share the costs of providing quality education to meet the needs of the present and the future.

Thus cooperative programs for the interstate use of established schools spare a state from attempting to provide every type of education within its own borders. State institutions work with the regional boards in joint planning of educational programs and in encouraging research and extensive regional studies of higher education, both in general and in specific fields such as forestry and nursing. The oldest of the agencies, the Southern Regional Education Board, has provided consultative services and has served as a clearinghouse of information in more than thirty academic fields of special significance to the development of the economy of its region.

Financial aid to the compact agencies comes from both public and private sources. Each state within a region makes an annual contribution to the support of the interstate endeavor. State legislatures make special appropriations for specific projects. In recent years federal agencies have provided approximately twenty per cent of the support from governmental grants and contracts. Through contracts for services and memoranda of agreement there is joint financing of programs by the regional board and educational institutions. And from private philanthropic organizations have come grants, usually to facilitate the launching of specific programs.

The first grants by the W. K. Kellogg Foundation for the promotion of region-wide programs in the field of graduate nursing education involved compact agencies in the South and the West. In 1954 the Southern Regional Education Board was asked to coordinate efforts in this direction by six Southern universities which received Foundation funds for this purpose. A Kellogg Foundation grant for a program featuring continuing education as well as graduate education in the West was made to the Western Interstate Commission for Higher Education in 1956.

Graduate Nursing Education in the South

"Please give us better prepared nursing instructors, supervisors, and administrators!" This plea from schools of nursing and hospitals large and small has echoed through the South for at least twenty years. In considerable part it is still unanswered but within a six-year period Southern Graduate Education Programs in Nursing have attracted five hundred advanced level students, with more than three hundred of them gaining Master of
SIX UNIVERSITIES IN THE SOUTH offer graduate work in nursing to a sixteen-state area, with coordination through the Southern Regional Education Board. Pictured is a seminar at the University of Texas, one of the six institutions chosen for the regional effort to heighten nursing skills through advanced level preparation.

Science in Nursing Degrees. In the words of an educator who has observed the program for six years: "As a consequence, nursing service administration in a number of hospitals is more efficient, and throughout much of the region there is better teaching of nursing."

A Several-Year Exploratory Phase

Prior to 1954 there were very limited opportunities to do graduate study in nursing within the Southern area. According to a survey early in the decade:

"Nurses in the South who wish to do graduate work have to attend schools in other regions of the country at considerable expense, and those who can afford to go are frequently lost to the region, for the tendency is to take positions in the neighborhood of the university one attends. Nurses who wish to improve their profes-
sional status and who do not wish to leave the region often turn
to other fields, such as general education."

A regional committee to study nursing education was advocated as
early as 1948 but did not come into being until 1951, this largely through
the efforts of The Southern Regional Conference of State Leagues of Nurs-
ing and the Southern Regional Education Board. A year later a question-
aire was distributed to all institutions having interest in regional education
programs in nursing. A general education consultant familiar with nursing
was added to the staff of the Education Board and subsequently visited each
of these institutions. In due time the six universities of the South believed
to be best equipped to offer graduate work in nursing were chosen, with the
concurrence of the other Southern schools, to provide the needed programs
for the entire sixteen-state area. These institutions were: Emory University,
the Universities of Alabama, Maryland, North Carolina and Texas, and
Vanderbilt University.

A grant from the Carnegie Corporation fostered the initial educational
activities, including three regional seminars. Then in 1954 grants were
made by the W. K. Kellogg Foundation to the six universities, giving assur-
ance of support for the initial five years of the Graduate Nursing Education
programs. These funds were used to provide additional faculty, clerical
assistance, instructional material, and travel. A parallel grant from the
Commonwealth Fund was allocated to each university by the Southern
Regional Education Board for fellowships awarded on the basis of student
financial need, for a special consultant, and for expenses of periodic
seminars. In recent years, federal traineeships, under Public Law 911, have
greatly aided the financing of the educational efforts by individual master's
degree candidates.

Offerings Constitute a Total Program

During the half-decade which has followed, nursing education pro-
grams at the graduate level have progressed at the six universities. These
programs are independently administered by each institution but are
planned jointly with the aid of a Regional Committee on Graduate Nursing
Education and Research, composed of the deans of the cooperating schools
and a Southern Regional Education Board representative. These persons,
in addition to the schools' directors of graduate education, meet periodically
in Regional Seminars to discuss major aspects of nursing education and
to plan further program development on a cooperative basis.

The offerings of the universities constitute a total program rather than
a series of individual competing ones. Through mutual agreement and to
avoid unnecessary duplication and cost, each school has developed the
particular specialty programs warranted by its own educational and clinical resources, and prospective students have been referred for study to the university offering their major field of interest. Thus the South is provided with the full range of graduate education in nursing, easily accessible to students of the region.

Highlights and Flaws

In 1958 the W. K. Kellogg Foundation provided a grant to the Southern Regional Education Board to cover the cost of a review of the total program during its initial five years. The study covering the years 1954-59 subsequently has been made, by a member of the Institute of Research and Service in Nursing Education of Teachers College, Columbia University, with the assistance of the Director of the Nursing Program for the Regional Board. Noted from the report of the study is the statement:

"It is difficult to imagine what the present stage of graduate nurse education in the South would be like had it not been for the leadership and contributions of the Southern Regional Education Board."

Further, the review indicated that the Graduate Nursing Education courses still need to be strengthened, although it is obvious that there have been significant gains from the regional movement. Graduate programs are firmly established and the universities have agreed to assume full responsibility for them now that Foundation assistance has terminated. Advanced level training has led to better instruction in many schools of nursing and more effective nursing administration in numerous hospitals. Many graduates of the programs have accepted positions of leadership in the South. Nurse educators of the region are assuming more important roles than formerly in national nursing organizations. A spirit of regional cooperation has been kindled which is accruing to the benefit of the nursing profession and the public. Comments from the other health care professions indicate appreciation of the gains realized and those anticipated. Annual conferences involving the various state boards of nurse examiners have created greater esprit de corps. And the program has had "holding power" as revealed by an observer's statement:

"With respect to the graduate students, there was the understanding that they would stay in the South and practically all of them have remained to give us a real educational and administrative nucleus. The faculties of the participating institutions have also been very loyal, for we have lost only three persons from the instructional staffs during the period."

As in any human endeavor, there have, of course, been disappointments and flaws in the regional program. Originally anticipated was the
establishment of a center for research in nursing. This has not yet eventuated — "Perhaps the center will come along later. We did try to give basic research competencies to the master's candidates and hope that in the long range we will get a group prepared to do research in their various institutions."

There was not as much shifting of students from state of origin to a university of another state as might have been anticipated. Perhaps one-sixth of the enrollments fell into this category. Some resistance kept this number from being larger. Many women with families were not willing to trade a change of residence for better out-of-state educational offerings in their specialties. And, although there was contemplation of the exchange of professors and faculties among the six schools — "to afford some cross-fertilization through counsel from imported experts" — actually very little of this took place.

**Nursing Education in the West**

As vigorous and dynamic as the section it represents is the Western Interstate Commission for Higher Education. Its agency for the professionalization of nursing is the Western Council on Higher Education for Nursing which was established in 1957 through Foundation funds. This organization is providing the channels for cooperative and coordinated planning to meet current and further needs of the Far West in the field of nursing. The effort has been one of the more successful of several projects in the health sciences which have been aided by the Commission.

The Nursing Council is composed of representatives from thirty-seven of the thirty-eight collegiate schools of nursing in the region. At both the undergraduate and graduate levels, members of the Council have been zealous in working together to encourage orderly growth of nursing programs in the region, with the greatest possible sharing of the specialized resources of the participating schools.

In perfecting its structure of organization and its plan of attack upon nursing problems, this Council has used region-wide and state studies to obtain the factual data necessary to formulate action programs. Three continuing Seminars have also been a part of the *modus operandi* of this regional movement which recognizes that the West is a huge area with burgeoning population and yet with a dearth of nursing administrators for clinical areas and a scarcity of qualified advanced-level teachers. Representatives from the eight Western universities which have graduate programs in nursing compose the Council's Graduate Seminar which has met three times annually. A resultant major contribution of the group is a delineation of the content in medical-surgical and maternal and child nursing education at the master's degree level. A similar description of the optimum content
of psychiatric and public health nursing education soon is anticipated. The Council has promoted research and has assisted with the collection of data and has acted as a clearinghouse for all studies going on in the Western region. It also has been concerned with the improvement of research methodology. Master's degree programs have been helped to expand and an experimental program at the doctoral level in nursing is being developed.

The Undergraduate Seminar, made up of representatives from each university having an undergraduate nursing program, also has met periodically. Among problems covered have been determination of content in basic nursing programs, expansion of clinical resources for improved learning experiences, studies of the costs of basic nursing education, teaching by television, and ways of discovering and retaining persons of excellent potential for nursing careers.

Continuation Education a “Must”

In recent decades significant changes in nursing practice have created an urgent need for additional training to bring nursing teachers, administrators, and supervisors up to date with new developments and to enhance their skills. Hence, the Foundation provided another grant to the Council to promote continuation education for nurses in leadership positions. With the region divided into three sub-regions, the University of California at Los Angeles and the Universities of Colorado and Washington have implemented the Council's third major effort, the Continuation Education Seminar. This Seminar has periodically sponsored conferences bringing nursing service personnel and nursing education faculty together. Out of the activity has emerged a pattern of short-term intensive education that has been highly effective in improving leadership skills of nurses who could not leave their jobs for full-time graduate study. A valuable corollary to the conferences has been follow-up visits by qualified consultants in order that each participating nurse may have individual counsel regarding her work problems within the local setting.

Termination of Foundation subsidies will not interrupt this vigorous continuation education program. Traineeship funds from the U. S. Public Health Service have been made available for continuation education institutes. Such financing and a real sense of regional cooperation will foster an expansion of the program of on-the-job training and, with a revised pattern wherein eight universities will now conduct such programs, it is hoped to aid eight hundred Western nurses in leadership positions during the next four years.

The Council's Program is Evaluated

Late last summer an evaluation was completed of the continuation
education program as promoted by the Council. The as-yet-unpublished findings of the Behavior Research Laboratory of the University of Colorado, focusing particularly upon "interpersonal relationships in administration," indicate that nursing leadership in the region has improved because of continuation education. Professional isolationism has declined and there is an eager sense of cooperation. Nurses are utilizing conference material in their work situations. There is continuing assessment of nursing needs and re-
sources in the West. The content of nursing curricula is being identified and improved. There has been increasing cooperation among representatives of the eight master's programs. Nursing research is being sponsored by several of the universities of the region. All these are strands of achievement from which there is being woven a pattern of nursing education which will favorably affect the quality of patient care in the West.

PROGRAMS CURRENTLY BEING ASSISTED IN NURSING

CANADA

University of New Brunswick, Fredericton
To aid the development of a new school of nursing offering a basic program leading to a baccalaureate degree.
To assist in the development of a program of continuing education for registered nurses in the Province.

University of Saskatchewan, Saskatoon
To help develop an educational program in Nursing Service Administration for graduate nurses and to assist the University Hospital with the in-service education program for nursing personnel.

University of Western Ontario, London
To assist in the development of a graduate program in Nursing Service Administration.

LATIN AMERICA

Catholic University of Chile, Santiago
To assist in the improvement of nursing education by providing teaching materials.

Fellowships, University of Brazil, Rio de Janeiro; University of Rio Grande do Sul, Pórtio Alegre, Brazil; University of São Paulo, Brazil; University of Chile, Santiago; University of Concepción, Chile; University of El Valle, Cali, Colombia; National Institute of Nutrition, Mexico City; Ministry of Public Health and Social Welfare, Asunción, Paraguay
To provide opportunities for selected faculty and staff members to obtain specialized preparation in the United States as a part of cooperative programs to improve nursing education.

Textbooks for Latin American Schools
To sponsor the translation of four nursing textbooks from English to Spanish and to distribute copies to schools of nursing in Latin America.
UNIVERSITY OF ASUNCIÓN, Paraguay
To help develop a medical nursing unit as a clinical teaching laboratory for nursing students and to demonstrate good nursing care in the University’s principal teaching hospital.

UNIVERSITY OF BRAZIL, Rio De Janeiro
To help strengthen the teaching program of the School of Nursing by providing audio-visual equipment.

UNIVERSITY OF MÉXICO, Mexico City
To provide expenses for a conference of selected individuals to review curriculum development in basic nursing and to discuss the current study programs of three nurses being prepared to teach in this new program.

UNIVERSITY OF SÃO PAULO, Brazil
To assist with the development of postgraduate programs in nursing.

UNITED STATES

ASSOCIATE DEGREE PROGRAMS IN NURSING, California State Department of Education, Sacramento; Los Angeles Valley Junior College, Van Nuys, California; University of California, Los Angeles; Florida State Department of Education, Tallahassee; University of Florida, Gainesville; Teachers College, Columbia University, New York; University of the State of New York, Albany; Odessa College, Odessa, Texas; University of Texas, Galveston
To aid the improvement and expansion of an Associate Degree nursing program in community-junior colleges in four states as a means of improving the quality and quantity of nursing services.

BOSTON UNIVERSITY, Boston
To assist residency training in nursing and to finance the publication of a “Handbook on the Development of a Nursing Service Administration Residency Program.”

GRADUATE EDUCATION IN NURSING, University of Alabama, Tuscaloosa; Emory University, Atlanta, Georgia; Southern Regional Education Board, Atlanta, Georgia; University of Maryland, Baltimore; University of North Carolina, Chapel Hill; Vanderbilt University, Nashville, Tennessee; University of Texas, Galveston
To assist in establishing graduate programs in nursing in the South, and to aid an evaluation of the programs.

MICHIGAN LEAGUE FOR NURSING, Lansing
To aid a meeting of high school Future Nurse Clubs under the auspices of the Southwestern Michigan League for Nursing.
National League for Nursing, Inc., New York

To provide consultation on curriculum problems at the graduate level, and to assist with the development of criteria to be used for the accreditation of graduate programs in nursing.

To develop a teacher-training program for graduate nurses responsible for the in-service instruction of hospital nursing aides.

University of Oklahoma, Oklahoma City

To assist in the development of a program leading to the baccalaureate degree in nursing for registered nurses.

Western Interstate Commission for Higher Education, Boulder, Colorado

To provide an intensive in-service education program for a selected group of nurses in leadership positions.

To establish an organizational framework for regional cooperation to be developed by schools of nursing in the West through the Western Council for Higher Education in Nursing.
HOSPITALS

Hospitals in an Age of Transition

During 1960 issues confronting the American hospital came into even sharper focus than in former years. In the forefront were problems related to adequate care of the aged, the continuing rise in the cost of providing hospital services, and the financing of health care. Some of these concerns, such as for the aged, have become national political issues. But all are of importance to local communities and hospitals, and all are to a large extent interrelated.

The primary concern of the typical hospital has traditionally been related to the so-called "acute" diseases but many authorities believe that the spectrum of health needs has so expanded that the hospital must embrace a wider range of services. This fact is well-illustrated in the evolution of the federal Hill-Burton
Hospital Construction Act. Although originally the Act was predominantly oriented to acute care needs, in recent years amendments have made possible assistance for other purposes. These have included diagnostic and treatment centers, nursing homes, and chronic disease and rehabilitation facilities.

Hence, there is a very discernible, although gradual, change in the character of many local hospitals. For example, more communities are becoming aware of the desirability of a well-defined and planned program for the health problems of the aged, and are realizing that the hospital setting has much to offer. A scattering of hospitals across the country are also developing attractive housing, contiguous to their main facilities, for the aged. Other areas are becoming cognizant of the great benefits to be derived from the establishment of a psychiatric care program, both for in- and out-patients, with relation to the general hospital. In some localities rehabilitation centers have been constructed, either as integral parts of the general hospital or in close physical proximity.

A New Concept in Hospital Services

Although such developments as these are mushrooming, perhaps the most dramatic recent impact in the hospital field has been that of a new concept of hospital organization and staffing, popularly termed "Progressive Patient Care." This involves an attempt to gear the hospital to the medical and nursing needs of individual patients. The services and facilities range from intensive care units for the seriously ill to self-help units for those individuals able largely to care for their own needs. The complete gamut of Progressive Patient Care encompasses units for long-term patients in the hospital and also provision for the rendering of hospital services to patients in their own homes. Hundreds of hospitals are presently adopting various facets of this approach, but the great majority are predominantly limited to the intensive care units. Because of the tremendous interest in "PPC", there is obvious need for careful analysis of presently functioning programs and the initiation of controlled demonstration projects so that realistic conclusions may be drawn as to the continuing value and practicability of the complete concept. Of great importance are such fundamental concerns as the definition of personnel staffing patterns by gradation of care, variations in cost by differentiated levels of service, and methods for initiation of home care under the auspices of a typical community hospital.

The Foundation has assisted in three programs involving certain aspects of the new concept of patient care. The Rochester (Minnesota) Methodist Hospital-Mayo Clinic received support for a study of an intensive care section utilizing an unconventionally designed unit, a "hospital in the round." The results of this investigation were recently released to the field
AN INTEGRATED CHRONIC DISEASE CARE PROGRAM at Traverse City, Michigan, uses the resources of both a community voluntary general hospital and a county-owned medical care facility. Pictured are patients in the dining room of the facility.

In a publication of the American Hospital Association, *Comparisons of Intensive Nursing Service in a Circular and a Rectangular Unit*. Community Hospital in Battle Creek, Michigan, received aid from the Foundation for both the establishment and evaluation (the latter by the University of Michigan Bureau of Hospital Administration) of an intensive care section in a more traditional nursing unit design. This analysis, involving both "before" and "after" studies of the hospital's patient population, will be published in 1961. In Traverse City, Michigan, Foundation assistance was provided to the James Decker Munson Hospital and the Grand Traverse Board of Supervisors for an integrated chronic disease care program using the resources of both a community voluntary general hospital and a county government-owned medical care facility. It is envisaged that this program, in its ultimate development, will encompass all levels of Progressive Patient Care, including hospital-extended care to patients in their homes.

*In-Service Training for Hospital Personnel*

The problem of obtaining personnel sufficient to meet the contemporary demands for health care continues to plague the hospital field. The graduates of formal training programs have not been in sufficient quantity to provide complete staffing. As a result, hospitals have continued to utilize personnel "trained on the job" in efforts to maintain a satisfactory level of patient care. Further, advancements in health care have occurred so rapidly that hospitals face a continual challenge in keeping abreast with these developments.
The Foundation has made several commitments to assist hospitals in the establishment of in-service training programs for employed personnel. For example, the needs of Canadian hospitals for the improved administration of nursing services have long been recognized by leaders in both the hospital and nursing fields. Widely scattered across the country are some 1,400 hospitals with a total capacity of approximately 190,000 beds. A major problem in Canada is the predominance of the small hospital. Some nine hundred hospitals, or 64 per cent of the total, have less than one hundred beds and it is extremely difficult to attract or to retain qualified personnel of all kinds in small hospitals; perhaps even more so in nursing services.

Unlike the United States (where the Foundation has assisted in the establishment of a number of university-sponsored nursing service administration programs), Canada has few university curricula specific to the nursing service field. The young woman who completes her basic nursing preparation is not equipped to assume the responsibilities for ward supervision. And yet the dearth of such personnel in supervisory positions has resulted in many young nurses having to accept these duties. It is the belief of the Canadian Hospital Association and the Canadian Nurses Association that an extension-home study program, to be offered on a national basis, can do much to upgrade the services of the hospital head nurse and supervisor and hence the quality of patient care. The curriculum (requiring approximately nine months for completion) will bear heavily upon the management functions of the supervising nurse, including human relations, budgeting, and the like.

The Foundation has provided continuing support to Michigan State University for the conduct each year since 1955 of nine-week intensive training courses for hospital food service supervisors. Sponsored jointly by the Michigan Hospital Association and the Michigan Dietetic Association, and endorsed by their national counterparts, this program was conceived to alleviate an almost overwhelming shortage of hospital dietitians. The course (which serves a five-state region) is designed to provide to head cooks in small hospitals and to untrained food service personnel in larger institutions a better comprehension of both nutrition and the management of a hospital dietary department.

The American Dietetic Association (ADA), recognizing the need of thousands of hospitals in the United States for similar in-service training endeavors, has recently undertaken the responsibility of planning a national approach to this problem. Through assistance provided by the Foundation, the ADA has inaugurated two pilot projects to test further desirable curriculum approaches and content. The first experiment, presently under way in the States of Iowa, Nebraska, and South Dakota, is basically a cor-
HOSPITAL FOOD IS BETTER

NOTICEABLE IMPROVEMENT in food served by hospitals perhaps has occurred from a number of factors. One contribution is that of the pioneering program at Michigan State University's in-service education for food service supervisors. Picture at upper left demonstrates that principles of chemistry underlie certain preparation of foods. The exact measurement of recipe constituents is stressed at upper right. At center, the baking of rolls is discussed. The photograph at left, bottom, shows an entire group of food service supervisors in action, while right, bottom, pictures a class at work on the theory which undergirds the food preparation demonstrations.
respondence course, supplemented by individual instruction to the student by members of the ADA who volunteer this service. These "preceptors" are usually located in communities in or near where the students are employed. The second pilot activity, being conducted in Minnesota and North Dakota, is a variant of the Michigan State University course, but of a shorter duration. The ADA will evaluate these various programs and, if the appraisal is favorable, will make available similar courses to hospitals throughout the country.

Still another personnel pressure point lies in the area of hospital medical record librarians. These employees have responsibility for the vital data relating to the care and treatment of every patient admitted to our thousands of hospitals. Again the formal programs of preparation of these employees do not begin to meet the field's demands. By means of Foundation support and following a pattern established in Canada, the American Association of Medical Record Librarians has instituted a national correspondence-extension course that is expected to reach hundreds of hospitals annually. These will be individuals employed in hospitals who have not had the opportunity of formal preparation.

In 1960 a "pilot" group of thirty students representing nineteen states was selected to test the correspondence curriculum. In early 1961 the initial class, expected to number fifty, will be accepted. Following the announcement of the program, the Association received over four hundred inquiries from interested librarians throughout the country. The curriculum will consist of twenty-five lessons received by correspondence and to be completed within a 24-month period. These lessons will be supplemented by "laboratory sessions" one week in length which will be held semi-annually in various locations throughout the country. The Association anticipates that by the third year of the program's operation as many as 150 students will be accepted annually.

Yet another form of in-service training for hospital staffs is the St. Louis University-Catholic Hospital Association series of continuing education conferences, institutes, and workshops. In a typical year of this activity, there were twenty-one such meetings held in twelve locations in the United States and with a total enrollment of nearly one thousand hospital employees. The categories of subjects varied from anesthesiology to hospital maintenance and engineering. The institutes, which are available to all hospitals, are partially supported by funds from the Foundation.

**Foundation Aids Administrators**

The Foundation has long maintained an interest in the education of hospital administrators through continued support of selected university
graduate programs not only in the United States but in Australia, Brazil, Canada, and Chile. During the year, the University of New South Wales, Sydney, Australia, received further aid for its recently established hospital administration training activities, as did similar programs in Brazil, Chile, Mexico, and Montreal and Toronto, Canada. In an effort to extend the benefits of United States experience in this field, the Foundation has assisted an exchange of faculty personnel and consultative counsel involving the University of New South Wales and the State University of Iowa; the University of São Paulo, Brazil, and Columbia University; and the University of Chile and the University of Minnesota. Several such exchanges occurred during the past year.

The University of Toronto also received support for an experimental change in its basic hospital administration curriculum. Through this pattern the students are spending their second year (or administrative residency) under the direct supervision of the University in selected hospitals of the metropolitan Toronto area rather than in hospitals far removed from this University. It is believed that this innovation will materially strengthen the curriculum and may point the way for similar experimentation by other universities offering programs in this field. In the United States, the Universities of California and Minnesota, Columbia University, and the State University of Iowa were given Foundation assistance for various facets of their hospital administration education programs, as were the American College of Hospital Administrators and the Association of University Programs in Hospital Administration.

The Foundation also provided aid to the University of Saskatchewan for the planning and initiation of a pilot extension-correspondence course for administrators of small hospitals. The two-year course, launched in September of 1960, is expected to reach eventually all the western provinces of Canada. This is of especial significance in that the great majority of hospitals in this large region are of less than 100-bed capacity, and they have relatively few formally prepared administrators.

The course, which enrolled thirty-five students beginning in September of 1960, has the active support of the Saskatchewan Hospital Association and the Provincial Department of Public Health. Over the two-year period, the student will receive fifty-two lessons by correspondence, supplemented by a number of short, intensive intramural sessions to be held in selected communities throughout the province. In addition, each year a two-week "seminar" will be conducted on the University campus at Saskatoon. The curriculum will cover such areas as general administrative principles and procedures, the application of these principles to the hospital organization, and finally the relationship of the hospital to the community which it serves.
FIVE LEVELS IN THE EXPANSION
OF
EDUCATION IN HOSPITAL ADMINISTRATION

Beginning in 1959 a series of Foundation grants has aided the intensification of several university graduate programs through support extended to advanced centers at the Universities of Chicago and Michigan and at Columbia University. Real impact upon other programs in the hospital administration field and, of course, upon the effectiveness of hospital operation and patient care, is anticipated thru the wide gamut of activities in these advanced programs - augmented faculty and research personnel, improved teaching materials, experimentation in curriculum development. In addition, the three programs are offering advanced courses of study at the doctoral level.

Pictured above (left) is the traditional classroom situation, emphasized during the student's first year of graduate education. At right, and during his calendar year of administrative residency, a student discusses with his preceptor and a physician a problem concerning the care of a patient.

In the bottom pictures on this page are illustrated two instances of faculty research where (left) a faculty member carefully observes a community hospital intensive care unit and (right) his research also gives opportunity to study the emergency ward of a rural health center long aided by the Foundation in Michigan.
Among other concerns of Advanced Level Hospital Administration programs is (above) service as "centers" to which on-the-job administrators can turn for knowledge and stimulation, through such means as the pictured annual institute.

Acknowledging obligations to communities, the programs sponsor community surveys relative to needed patient care — for instance, evaluation of evolving home care programs, or aid to nursing home directors to develop operating procedures, as illustrated (right.)

Another prime obligation is through interdisciplinary training of young pre- and post-doctoral scholars thru 3 to 5 years of teaching and research ventures. The pictured conference below shows, in addition to hospital administrators, an economist, a sociologist, and a certified public accountant.
Beginning in 1959 a series of Foundation grants has been aiding the intensification of several university programs for education in hospital administration. Special support extended to "advanced centers" at the Universities of Chicago and Michigan and at Columbia University is facilitating a much wider gamut of activities in these administration programs. Augmented faculty and research personnel, improved teaching materials including case problems, experimentation in curriculum development, the expansion of research and continuing education, all are intensifying the training of the hospital administrator. In addition, the three programs are offering advanced courses of study at the doctoral level. As efforts in these directions continue, there should be real impact upon other programs in the field and, of course, upon the effectiveness of hospital operation and patient care in many communities.

*Inter-Hospital Cooperative Services*

The Foundation has continually attempted to aid hospitals in the development of cooperative programs providing a service that would be very difficult for the individual institution to undertake. This philosophy has its roots in the very earliest activities of the Foundation in the hospital field, in the area of diagnostic services for rural communities. To some observers the future development of hospital services in this country may be closely related to the ability of hospitals to achieve a greater degree of cooperation and coordination in their activities.

Two such programs — one in Canada and the second in the Midwestern United States — are predicated on this philosophy. The Associated Hospitals of Manitoba received Foundation aid for the initiation of consultative services geared to upgrading patient care in the many small hospitals of the Province. The association will retain a coordinator who will attempt to bring to such small hospitals the counsel of skilled department heads located in the larger institutions. Through this approach, the concept of hospital regionalization may be partially implemented. In the States of Colorado, Nebraska, and South Dakota, the Research and Educational Trust of the American Hospital Association has established a cooperative accounting and financial program, "Hospital Administrative Services." This activity helps hospitals with their basic accounting and also provides financial statements and periodic reports of comparison with other participating hospitals. The service, which will eventually be extended to neighboring states, is partially supported by the Foundation.

One of the experiences most gratifying to the Foundation is to aid a constructive idea toward fruition and successful usage. Sometimes these ideas begin on a very modest level and eventually become large in scope. An excellent example is the program of the Commission on Professional
and Hospital Activities, popularly known as the Professional Activity Study, or more simply as “PAS.” It is also an interesting example of the cooperation of hospitals in providing a needed service.

In 1950 the Southwestern Michigan Hospital Council, a group of predominantly rural hospitals, received a modest Foundation grant to initiate a project involving the monthly summarization of a few patient care statistics gathered from the members. These data, such as total deaths, births, and operations, were compiled on a comparative basis and distributed to the member hospitals. However, the information was entirely of a summary nature, making it impossible to separate the material into component parts to aid analyses of many important hospital and medical problems. The solution seemed obvious — to obtain complete information about every patient discharged, and from that point to build the analyses. A committee of the Hospital Council believed this would make possible a far-reaching study on many aspects of patient care. Modern tabulating and statistical equipment could render such service economically and efficiently if a sufficient volume could be obtained.

The Foundation agreed to underwrite the program further to test the feasibility of this new approach. In 1953 fourteen hospitals of the Council signified interest in the experiment. The University of Michigan School of Public Health offered the use of its tabulating equipment. For a period of twelve months the method was tested and found very acceptable and the range of studies thus made possible was even greater than originally envisaged. With this encouragement, the program was extended to a selected number of other Michigan hospitals in 1954 and 1955.

By 1956 it was apparent that the methodology and basic program were of such importance that the project should be made available on a national level. The American College of Physicians, the American College of Surgeons, and the American Hospital Association agreed to sponsor the program in cooperation with the Southwestern Michigan Hospital Council. A commission was formed to undertake the transition from local to national operation. The Foundation agreed to continue to subsidize the program during this period of growth.

In 1960 the Foundation made its concluding contribution for basic assistance to the Commission. From 1956 to 1960 the number of participating hospitals had increased from forty-one to one-hundred-thirty-seven, located in twenty-three states and Puerto Rico. The annual total volume of hospital discharges is expected to reach 1,500,000 by the end of 1960 as compared to less than 200,000 at the time of the program’s beginnings on a national basis. In the Commission’s “bank” of filed discharges is a total of 3,000,000 patients. This represents an accumulation of patient care data
that is not obtainable on a comparable scale anywhere in this country, if in the world.

However, of major importance is the fact that medical staffs and hospitals now have available tools that permit intensive analysis, on a comparative basis, of the care they extend to patients. This necessarily is reflected in the improvement of services for a large number of communities and for many people.

Studies Toward Better Hospital Services

The rapidly expanding population, the great increase in public demand for hospital care, the impact of prepayment insurance plans, all have had tremendous impact upon hospitals everywhere in this country. As one step to cope with this challenge of the times, a study of "Hospital and Medical Economics in the State of Michigan" has been undertaken, utilizing funds granted by the Foundation. Carried forward by the University of Michigan Hospital Administration Section of the School of Business Administration, it is concerned with the multi-faceted problem of financing of health care and contains findings believed to be applicable to most areas of the nation. A comprehensive report of the study will be published in early 1961.

Latin American Centers for Administrative Training

The Foundation's assistance during the past twelve years for the courses in hospital administration in Santiago, Chile, and in São Paulo, Brazil, has helped meet the critical need for preparation of hospital leaders in Latin America. However, it has been urgent that similar courses be established in other centers for better fulfillment of the hospital requirements of all the Latin American countries. It is gratifying, therefore, that an educational program in hospital administration was begun in Mexico City in April of 1960.

The new Mexico City program, for which the Foundation is providing initial financial assistance, is sponsored jointly by the Ministry of Health and the University of Mexico. There is a Directive Council made up of representatives from the Ministry and the University, and the Council appoints the Coordinator of the program and his principal assistants. Other teaching personnel includes faculty members of the Schools of Medicine and Business Administration, of the University, and of the School of Public Health which is under the Ministry. The graduates of the program will be awarded the degree of Master of Hospital Administration by the University.

The training under this program comprises an academic year of nine months, followed by six months of hospital residency, and then six months of social service (i.e., service for the government) in a hospital. Courses
are given in the three interrelated fields of public health, general administrative procedures, and administration as it pertains specifically to hospitals.

Enrollment is limited at present to fifteen Mexican students per year, while ten additional students will also be accepted from other countries, since the program is intended to serve Central America as well as Mexico. This limitation in enrollment is realistic, at least for the present, in relation to capacity and need.

The establishment of this program represents a major advance toward meeting the widespread necessity for more well-trained administrators for Latin American hospitals. Now the three programs assisted by the Foundation, for education in hospital administration in Brazil, Chile, and Mexico, offer training in centers which logically can serve three broad geographical areas of Latin America.

PROGRAMS CURRENTLY BEING ASSISTED IN THE HOSPITAL FIELD

AUSTRALIA

Educational Exchange Programs, University of New South Wales, Sydney, and The State University of Iowa, Iowa City
To aid the improvement of programs in hospital administration by providing consultation services and educational exchanges between a U.S. university and a counterpart program in Australia.

Fellowships, Hospitals and Charities Commission, Melbourne
To assist in the planning and supervision of field experiences in the United States for individuals nominated by the Commission.

University of New South Wales, Sydney
To assist in improving the quality of hospital services in Australia through the establishment of an educational program in hospital administration.

CANADA

Education in Hospital Administration, University of Montreal, Quebec; University of Saskatchewan, Saskatoon; University of Toronto, Ontario
To assist the improvement of hospital services in Canada through the development of educational programs in hospital administration.

Education of Hospital Personnel, Canadian Hospital Association and Canadian Nurses' Association, Toronto, Ontario
To improve the quality of hospital services by assisting in the establishment of a correspondence-extension program for nursing advisory personnel.
LATIN AMERICA

American Hospital Association Latin American Program, Hospital Research and Educational Trust, Chicago, Illinois

For assistance in the establishment of a program of consultative and educational services to hospitals throughout Latin America.

Education in Hospital Administration, University of Chile, Santiago; University of Mexico, Mexico City; University of São Paulo, Brazil

To improve the quality of hospital administration through the development of educational programs.

Educational Exchange Programs, University of São Paulo, Brazil, and Columbia University, New York; University of Chile, Santiago, and University of Minnesota, Minneapolis

To aid the improvement of programs in hospital administration by providing consultative services and educational exchanges between United States universities and counterpart programs in Latin America.

Fellowships, University of São Paulo, Brazil; University of Antioquia, Medellin, Colombia

To provide opportunities for selected faculty members to obtain specialized preparation in the United States as part of cooperative programs to improve education in hospital administration.

Ministry of Public Health and Social Welfare, Asunción, Paraguay

To assist in establishing central supply services for the improvement of hospital care in Paraguay.

Society of Public Beneficence, Lima, Peru

To assist the Society in a study of the organization and administration of its teaching hospitals.

UNITED STATES

Arthur S. Kimball Sanatorium, Battle Creek, Michigan

For assistance toward the development and evaluation of an experimental convalescent care unit within the present facility.

Cooperative Accounting, Hospital Research and Educational Trust, Chicago, Illinois

To aid the development of an experimental cooperative and centralized accounting service for participating hospitals in Colorado, Nebraska, and South Dakota.

Evaluation of Rural Health Centers, Kalkaska, Onaway, and St. Ignace, Michigan

To aid an evaluation of the total health center program as assisted by the Foundation in northern Michigan communities.
Education in Hospital Administration, American College of Hospital Administrators, Chicago; Association of University Programs in Hospital Administration, Chicago; Columbia University, New York; Emory University, Atlanta; The State University of Iowa, Iowa City; University of California, Berkeley; University of Chicago, Chicago; University of Michigan, Ann Arbor; University of Minnesota, Minneapolis

For assistance in the improvement of hospital administration and hospital services through the development of educational programs.

Education of Hospital Personnel, American Association of Medical Record Librarians, Chicago; American Dietetic Association, Chicago; Catholic Hospital Association of the United States and Canada and St. Louis University, St. Louis, Missouri; Cleveland Hospital Council, Cleveland, Ohio; Grisell Memorial Hospital, Ransom, Kansas; Michigan State University, East Lansing

To develop educational opportunities, particularly in-service education, for various hospital personnel.

Hospital Administration Student Loan Funds, George Washington University, Washington, D.C.

To establish a loan fund for graduate students.

Hospital Medical Evaluation, Commission on Professional and Hospital Activities, Ann Arbor, Michigan; American College of Surgeons, Chicago

For aid in the experimental development of methods to evaluate the professional activities of hospital medical staffs as a means of improving the quality of medical care.

Intensive Patient Care, Community Hospital Association of Battle Creek, Michigan; Rochester Methodist Hospital-Mayo Clinic, Rochester, Minnesota

For assistance in the development of an intensive patient care facility in Battle Creek and for the support of studies on the effectiveness and value of the experimental patient care units in Battle Creek and in Rochester.

James Decker Munson Hospital, Grand Traverse County, Traverse City, Michigan

To assist in the development of a chronic care program and facility for the Grand Traverse region of Michigan.

Michigan Department of Health No. 1, Kalkaska, Michigan

To assist a demonstration of the feasibility of a visiting nurse program in the rural community.

Study of Hospital Needs, American Hospital Association, Research and Hospital Trust, Chicago

Partial subsidy of a nation-wide study of the future needs for hospital facilities.

University of Michigan, Ann Arbor

For support of a study of hospital and medical economics in the State of Michigan.
Report of the Secretary

Twelve meetings of the Board of Trustees were held at the offices of the W. K. Kellogg Foundation in Battle Creek, Michigan, during the fiscal year, including the annual meeting on December 15, 1959. The annual meeting of the Members of the corporation was also held on December 15 and special meetings of the Members were held on January 19, 1960 and June 21, 1960.

At the annual meeting of the Members, W. P. Butler, Lyle C. Roll and Fred Sherriff were re-elected Members and Trustees for terms of three years. Herbert H. Hasson and Bessie Rogers Young were elected Honorary Trustees for one-year terms. The trusteeship to which Mr. Hasson was elected is rotated annually among the senior members of the Foundation staff. On June 21, 1960, Kenneth V. Zwiener was elected a Member and appointed a Trustee to succeed the late Fred Sherriff.

The section of this report headed "Personnel of the Foundation" lists the entire membership of the Board of Trustees as well as officers elected at the annual meeting of the Trustees, and members appointed to the Finance Committee at that meeting.

The annual audit of the Foundation books made by Price Waterhouse & Co., for the year ending August 31, 1959, was approved by the Board of Trustees on January 19, 1960. During the year the Trustees made new appropriations totaling $7,561,060 for the activities of the Foundation during the current and ensuing fiscal years.

Of the many requests for financial assistance considered by the Foundation during the year, 907 were declined. Many of these applications were in behalf of projects outside the scope of the Foundation's present interests. However, a great number of relevant requests were declined because of limited resources and prior commitments. The applications that were declined may be classified as follows: Scholarships, fellowships, travel grants and grants for individual training, 312; financial aid to health, educational and service agencies to develop or operate programs, 306; funds for constructing and/or equipping facilities, 157; studies or basic research, 90; publications and films, 19; conferences and meetings, 11; personal financial assistance, 12.
To the Board of Trustees
W. K. Kellogg Foundation
Battle Creek, Michigan

In our opinion, the financial statements in the accompanying Report of the Treasurer present fairly, on the basis indicated below which is consistent with that of the preceding year, the combined financial position of W. K. Kellogg Foundation and W. K. Kellogg Foundation Trust at August 31, 1960 and the Foundation's income and expenditures for programs and administration for the year then ended.

The accounts are maintained on a cash basis except that appropriations for future expenditures and amortization are reflected in the statements. Assets of W. K. Kellogg Foundation Trust were confirmed direct to us by Harris Trust and Savings Bank, the corporate trustee. Our examination of the financial statements 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, including confirmation of securities owned at August 31, 1960, by inspection or by correspondence with the depositary.
# Report of the Treasurer

## INCOME AND EXPENDITURES

Fiscal Year Ended August 31, 1960

### INCOME

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trusts</td>
<td>$4,994,913</td>
</tr>
<tr>
<td>Investments</td>
<td>1,623,195</td>
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<tr>
<td>Other</td>
<td>16,799</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>6,634,871</strong></td>
</tr>
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</table>

### EXPENDITURES

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program payments</td>
<td>7,990,291</td>
</tr>
<tr>
<td>Refunds on expenditures in prior years</td>
<td>(65,559)</td>
</tr>
<tr>
<td>Administration</td>
<td></td>
</tr>
<tr>
<td>Consultant and advisory services</td>
<td>$12,854</td>
</tr>
<tr>
<td>Legal and auditing</td>
<td>9,607</td>
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<tr>
<td>Office operations</td>
<td>30,883</td>
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<tr>
<td>Publications</td>
<td>27,738</td>
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<tr>
<td>Rent</td>
<td>6,900</td>
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<tr>
<td>Salaries and employees' security program</td>
<td>327,872</td>
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<tr>
<td>Travel</td>
<td>31,869</td>
</tr>
<tr>
<td>Trustee honoraria</td>
<td>950</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>448,673</strong></td>
</tr>
<tr>
<td><strong>Excess of expenditures over income</strong></td>
<td><strong>$1,738,534</strong></td>
</tr>
</tbody>
</table>

## CHANGES IN UNAPPROPRIATED GENERAL FUND BALANCE

Fiscal Year Ended August 31, 1960

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unappropriated general fund balance at beginning of year</td>
<td>$19,162,088</td>
</tr>
<tr>
<td>Excess of expenditures over income</td>
<td>(1,738,534)</td>
</tr>
<tr>
<td>Excess of proceeds from disposal of assets over cost or value at dates received</td>
<td>485,320</td>
</tr>
<tr>
<td>Decrease in appropriations for future expenditures</td>
<td>1,050,922</td>
</tr>
<tr>
<td>Unappropriated general fund balance at end of year</td>
<td><strong>$18,959,796</strong></td>
</tr>
</tbody>
</table>
REPORT OF THE TREASURER

BALANCE SHEET — AUGUST 31, 1960

**ASSETS**

<table>
<thead>
<tr>
<th>General Fund</th>
<th>Book Amount</th>
<th>Quoted Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$533,271</td>
<td>$533,271</td>
</tr>
<tr>
<td>Bonds</td>
<td>24,089,827</td>
<td>23,393,074</td>
</tr>
<tr>
<td>Stocks</td>
<td>12,411,590</td>
<td>19,865,567</td>
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<tr>
<td>Leased real estate, less amortization</td>
<td>1,827,264</td>
<td>1,827,264</td>
</tr>
<tr>
<td>Notes and accounts receivable</td>
<td>543,347</td>
<td>543,347</td>
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<tr>
<td>Land and equipment</td>
<td>84,361</td>
<td>84,361</td>
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<tr>
<td><strong>Total</strong></td>
<td>39,489,660</td>
<td>46,246,884</td>
</tr>
</tbody>
</table>

**Trusts Administered by the Foundation**

| Cash and securities | 73,109 | 372,542 |

**W. K. Kellogg Foundation Trust**

| 4,522,060 shares Kellogg Company common stock | 33,105,417 | 208,014,760 |

**Total** | $72,668,186 | $254,634,186 |

**FUND BALANCES**

<table>
<thead>
<tr>
<th>General Fund</th>
<th>Book Amount</th>
<th>Quoted Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriated for fiscal year 1961</td>
<td>$8,274,657</td>
<td>$8,274,657</td>
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<tr>
<td>Appropriated for subsequent years</td>
<td>12,230,469</td>
<td>12,230,469</td>
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<tr>
<td>Unappropriated</td>
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<tr>
<td>Received for specific purposes</td>
<td>24,738</td>
<td>24,738</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>39,489,660</td>
<td>46,246,884</td>
</tr>
</tbody>
</table>

**Trusts Administered by the Foundation**

| Cash and securities | 73,109 | 372,542 |

**W. K. Kellogg Foundation Trust**

| 33,105,417 | 208,014,760 |

**Total** | $72,668,186 | $254,634,186 |

This Balance Sheet includes the W. K. Kellogg Foundation Trust of which the Foundation is beneficiary. It also includes certain trusts, the principal of which will eventually be distributed to the Foundation, which are currently administered for interim beneficiaries.

Assets purchased by the Foundation are stated in the Book Amount column at cost less amortization, and assets received as gifts or distributions from trusts are stated at the estimated values at dates of acquisition.

In the Quoted Market column, securities are included at approximate quoted market value, where available, at August 31, 1960. Other assets are at book amounts.
APPROPRIATIONS AND PAYMENTS

The next several pages contain a detailed statement of: (a) unpaid balances of appropriations at beginning of the year combined with appropriations made during year (b) payments made during the fiscal 1960, and (c) unpaid balances of appropriations at August 31, 1960. Each of the agencies listed is a governmental or non-profit organization. Below is a summary of the payments by geographical area and by subject matter:

<table>
<thead>
<tr>
<th>SUBJECT MATTER</th>
<th>GEOGRAPHICAL AREA</th>
<th>AUSTRALIA</th>
<th>CANADA</th>
<th>EUROPE</th>
<th>LATIN AMERICA</th>
<th>UNITED STATES</th>
<th>GENERAL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hospitals</td>
<td>Dentistry</td>
<td>Agriculture</td>
<td>Dentistry</td>
<td>Education</td>
<td>Hospitals</td>
<td>Medicine</td>
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<tr>
<td>AGRICULTURE</td>
<td>Europe</td>
<td>$627,259</td>
<td>$17,554</td>
<td>$91,940</td>
<td>$61,753</td>
<td>$401,443</td>
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<td>$7,990,291</td>
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<td></td>
<td>Latin America</td>
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<tr>
<td></td>
<td>United States</td>
<td>$401,443</td>
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<tr>
<td></td>
<td>Total</td>
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<td>$133,615</td>
<td>$123,161</td>
<td>$355,677</td>
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<td>DENTISTRY</td>
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<td>$460,671</td>
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<td>PUBLIC HEALTH</td>
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<td>$218,843</td>
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<td>$7,990,291</td>
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<td></td>
</tr>
</tbody>
</table>

132
### Australia

#### Hospitals

**Educational Exchange Programs**

University of New South Wales and The State University of Iowa  
$4,921 $4,921 $  
To aid the improvement of programs in hospital administration by providing consultation services and educational exchanges between a U.S. university and a counterpart program in Australia (The State University of Iowa, Payee).

**University of New South Wales**  
$53,838 $40,151 $13,687  
To assist in improving the quality of hospital services in Australia through the establishment of an educational program in hospital administration.

### Canada

#### Dentistry

**Canadian Dental Association**  
$1,236 $528 $708  
To assist the Council on Dental Education to develop a program of accreditation and consultation services for Canadian dental schools.

**Dalhousie University**  
$17,026 $17,026  
To assist in strengthening the teaching program of the Faculty of Dentistry and to encourage the development of regional planning and support for dental education by the Maritime Provinces.

**McGill University**  
$41,100 $41,100  
To strengthen teaching in the Faculty of Dentistry by the addition of two full-time teachers.
### EDUCATION

**Canadian Education Association**

To aid the expansion of this Association's service programs, including publications, consultative service, conferences, and workshops, with emphasis on aid to educational administrators of Canada.

**University of Alberta**

To aid the preservice and in-service programs for the improvement of educational leadership in Canada, by strengthening the graduate program in educational administration at this University.

### HOSPITALS

**Education in Hospital Administration**

- University of Montreal: $22,729, 7,173, 15,556
- University of Saskatchewan: $14,061
- University of Toronto: $17,487, 13,860, 3,627

To assist the improvement of hospital services in Canada through the development of educational programs in hospital administration.

**Education of Hospital Personnel**

Canadian Hospital Association (Payee) and Canadian Nurses’ Association: $140,000, 69,701, 70,299

To help improve the quality of hospital services by assisting in the establishment of a correspondence-extension program for nursing supervisory personnel.

### MEDICINE

**Graduate and Postgraduate Medical Education**

- Dalhousie University: $25,023, 10,319, 14,704
- University of British Columbia: $60,000, 15,281, 44,719

To aid in the development of comprehensive programs in graduate and postgraduate medical education.
REPORT OF THE TREASURER

UNDERGRADUATE MEDICAL EDUCATION

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dalhousie University</td>
<td>$ 71,070</td>
<td>$ 24,164</td>
<td>$ 46,906</td>
</tr>
<tr>
<td>University of Toronto</td>
<td>46,000</td>
<td>26,406</td>
<td>19,594</td>
</tr>
</tbody>
</table>

To strengthen the teaching programs and staff.

NURSING

UNIVERSITY OF NEW BRUNSWICK

To aid the development of a new school of nursing offering a basic program leading to a baccalaureate degree. 142,525 17,802 124,723

To assist in the development of a program of continuing education for registered nurses in the Province. 5,692 3,672 2,020

UNIVERSITY OF SASKATCHEWAN

To help develop a graduate educational program in Nursing Service Administration and a program of continuing education for nursing personnel. 53,652 15,826 37,826

UNIVERSITY OF WESTERN ONTARIO

To assist in the development of a graduate program in Nursing Service Administration. 122,966 24,453 98,513

PUBLIC HEALTH

UNIVERSITY OF TORONTO

To assist in the development and conduct of community health administration studies. 10,000 5,294 4,706

AGRICULTURE

AGRICULTURAL COLLEGE OF NORWAY

To provide initial support for the establishment of a section of rural sociology in the College's Department of Farm Management and Agricultural Economics. $ 16,848 $ 8,398 $ 8,450

AGRICULTURAL RESEARCH COUNCIL OF GREAT BRITAIN

To assist in purchasing research equipment and materials. 2,216 2,216

135
### Appropriations

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Danish State Board of Plant Culture</strong></td>
<td>$ 5,080</td>
<td>$ 5,080</td>
</tr>
<tr>
<td>For the purchase of laboratory equipment for use by a former Fellow provided study in the U.S. by the Foundation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Federation of Small Holders' Associations in Jutland, Denmark</strong></td>
<td>71,946</td>
<td>29,980</td>
</tr>
<tr>
<td>To assist in improving the effectiveness of agricultural extension work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fellowships</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Research Council, Great Britain</td>
<td>26,495</td>
<td>9,333</td>
</tr>
<tr>
<td>Ministry of Agriculture, Fisheries and Food of England and Wales</td>
<td>74,848</td>
<td>31,447</td>
</tr>
<tr>
<td>English and Welsh Universities with Agricultural Faculties</td>
<td>58,521</td>
<td>6,666</td>
</tr>
<tr>
<td>Department of Agriculture, Scotland</td>
<td>40,384</td>
<td>9,415</td>
</tr>
<tr>
<td>Ministry of Agriculture, Northern Ireland</td>
<td>31,992</td>
<td>11,331</td>
</tr>
<tr>
<td>Department of Agriculture, Republic of Ireland</td>
<td>37,088</td>
<td>8,964</td>
</tr>
<tr>
<td>Ministry of Agriculture, Denmark</td>
<td>79,875</td>
<td>17,838</td>
</tr>
<tr>
<td>State Agricultural University, The Netherlands</td>
<td>29,707</td>
<td>1,292</td>
</tr>
<tr>
<td>Agricultural Research Council, Norway</td>
<td>58,037</td>
<td>25,830</td>
</tr>
<tr>
<td>Royal Swedish Academy of Agriculture and Forestry</td>
<td>56,544</td>
<td>18,140</td>
</tr>
<tr>
<td>Federal Ministry of Food, Agriculture and Forestry, West Germany</td>
<td>116,177</td>
<td>16,570</td>
</tr>
<tr>
<td>To help improve agricultural education and practices in Europe by providing opportunities for study in the United States for qualified faculty, extension, and research personnel of selected European agencies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Institute of Agricultural Engineering, Norway</strong></td>
<td>253,004</td>
<td>161,173</td>
</tr>
<tr>
<td>To aid in constructing and equipping a teaching and research institute to facilitate mechanization of Norwegian agriculture (The Agricultural Research Council of Norway, Payee).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>International Institute for Land Reclamation and Improvement, The Netherlands</strong></td>
<td>191,840</td>
<td>39,787</td>
</tr>
<tr>
<td>To assist in establishing, operating, and housing an Institute for the world-wide dissemination of information relative to land reclamation and improvement (Ministry of Agriculture, Fisheries and Food of the Netherlands, Payee).</td>
<td></td>
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</tbody>
</table>
Irish Countrywomen's Association  
To help improve rural life through establishment of a residential center and educational program for the countrywomen of Ireland.

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16,800</td>
<td>$14,037</td>
<td>$2,763</td>
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</table>

National Council of Young Men's Christian Associations, Inc., England  
To assist in a program designed to provide technical training in agriculture, placement on farms, and follow-up supervision for British boys from urban areas.

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>35,840</td>
<td>19,108</td>
<td>16,732</td>
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</table>

University of Dublin, Trinity College  
To help improve Irish agriculture through aid in the development of a demonstration-experimental farm, including a center with facilities for research work, student accommodation, and extension courses.

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>112,500</td>
<td>112,500</td>
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</tr>
</tbody>
</table>

Young Farmers' Clubs  
National Federation of England and Wales  
Scottish Association  
Isle of Man Federation  
Ulster, Northern Ireland  
Ireland  
To help improve rural life and agriculture of various countries through aid for expanded rural youth group programs and activities.
Fellowship for a U.S. study experience for the Director of the Junior Section of Young Farmers' Clubs of Ireland

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
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<td>72,845</td>
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<td>39,081</td>
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<td>19,605</td>
<td>8,513</td>
<td>11,092</td>
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<td>1,143</td>
<td>641</td>
<td>502</td>
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<td>16,993</td>
<td>15,469</td>
<td>1,524</td>
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<td>44,698</td>
<td>17,450</td>
<td>27,248</td>
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<tr>
<td>2,317</td>
<td>2,317</td>
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</table>

Latin America  
Inter-American Institute of Agricultural Sciences, Costa Rica  
To assist in the preparation of teaching materials in Spanish and Portuguese for use in Latin American schools of agriculture.

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
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</thead>
<tbody>
<tr>
<td>$33,275</td>
<td>$7,890</td>
<td>$25,385</td>
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National University of Colombia  
To foster the continuing development of the Schools of Agriculture and the Forestry Institute at Palmira and Medellin, through funds for equipment and supplies, building improvements, and through faculty training and counseling by visiting professors.

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
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</thead>
<tbody>
<tr>
<td>250,399</td>
<td>115,271</td>
<td>135,128</td>
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</tbody>
</table>
DENTISTRY

BRAZILIAN DENTAL EDUCATION ASSOCIATION

To help strengthen dental education in Brazil by providing assistance for post-graduate courses to be given by Brazilian and American professors for faculty members of the Brazilian dental schools.

$23,280  $5,801  $17,479

NATIONAL UNIVERSITY OF COLOMBIA

To help strengthen the teaching program by providing equipment, visiting professors, and salary supplements for 4 half-time professors.

30,725  14,982  15,743

UNIVERSITY OF ANTIOQUIA, COLOMBIA

To strengthen the teaching program by providing equipment and visiting professors according to a general plan for the improvement of the Dental School.

18,500  10,634  7,866

UNIVERSITY OF CHILE

To help strengthen the teaching program by providing equipment and materials for the Departments of Oral Pathology, Prosthodontics, and Microbiology.

8,126  8,126

UNIVERSITY OF COSTA RICA

To assist in strengthening the teaching program by providing equipment, fellowships, and salary supplements for one full-time and two half-time professors.

41,879  12,246  29,633

UNIVERSITY OF SAN CARLOS, GUATEMALA

To help strengthen the teaching program by providing equipment for a children's clinic and for audio-visual training, and salary supplements for two half-time professors.

40,200  36,600  3,600

UNIVERSITY OF SÃO PAULO, BRAZIL

For assistance toward the development of a program for the training of dentists in public health and preventive dentistry.

5,697  5,697

138
### Fellowships

<table>
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<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
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<tbody>
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<td>$162</td>
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<td>1,245</td>
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<td>University of São Paulo, Brazil</td>
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<tr>
<td>University of Chile</td>
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<td>5,652</td>
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<tr>
<td>University of Concepción, Chile</td>
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<td>3,050</td>
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<tr>
<td>University of Antioquia, Colombia</td>
<td>4,785</td>
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<tr>
<td>University of Colombia</td>
<td>5,090</td>
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<td>University of Costa Rica</td>
<td>5,831</td>
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<tr>
<td>University of San Carlos, Guatemala</td>
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<tr>
<td>University of Guadalajara, Mexico</td>
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<td>1,017</td>
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</tr>
<tr>
<td>University of San Marcos, Peru</td>
<td>895</td>
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</tbody>
</table>

To provide opportunities for selected faculty members to obtain specialized preparation in the U.S. as a part of cooperative programs to improve dental education.

### Education

**Institute of Nutrition of Central America and Panama**

To provide personnel for demonstrations and consultative services to facilitate the application of research findings to the Institute's program in applied nutrition. (Pan American Health Organization, Payee)

### Hospitals

**Education in Hospital Administration**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
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<tr>
<td>University of Chile</td>
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<td>841</td>
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<tr>
<td>University of Mexico</td>
<td>123,000</td>
<td>41,000</td>
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</table>

To improve the quality of hospital administration through the development of educational programs.

**Educational Exchange Program**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of São Paulo, Brazil, and Columbia University</td>
<td>4,420</td>
<td>4,420</td>
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</tr>
</tbody>
</table>

To aid the improvement of a program in hospital administration by providing consultative services and educational exchanges between a United States university and a counterpart program in Latin America.
MINISTRY OF PUBLIC HEALTH AND SOCIAL WELFARE, PARAGUAY

To assist in establishing central supply services for the improvement of hospital care in Paraguay.

SOCIETY OF PUBLIC BENEFICENCE OF LIMA, PERU

To assist the Society in a study of the organization and administration of its teaching hospitals.

FELLOWSHIPS

University of São Paulo, Brazil
University of Antioquia, Colombia

To provide opportunities for selected faculty members to obtain specialized preparation in the U.S. as part of cooperative programs to improve education in hospital administration.

MEDICINE

EQUIPMENT AND TEACHING AIDS

University of Bahia, Brazil
University of Concepción, Chile
University of Antioquia, Colombia
University of El Valle, Colombia
University of El Salvador
University of Nuevo León, Mexico
University of San Luis Potosí, Mexico
University of Asunción, Paraguay

To provide equipment and teaching aids to augment the teaching and research programs of medical schools employing former Fellows.

EXPERIMENTAL DEPARTMENTAL TEACHING PROGRAMS

Catholic University of Chile
University of Chile
University of Mexico
University of Nuevo León, Mexico
University of Michoacán, Mexico
University of San Marcos, Peru

To improve medical education through demonstration projects, by supplementing salaries to permit full-time instruction and by furnishing equipment for teaching and research.
REPORT OF THE TREASURER

IMPROVEMENT OF CLINICAL INSTRUCTION AND PRACTICE

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Bahia, Brazil</td>
<td>$ 79,410</td>
<td>$ 31,702</td>
<td>$ 47,708</td>
</tr>
<tr>
<td>University of Rio Grande do Sul, Brazil</td>
<td>25,200</td>
<td>8,400</td>
<td>16,800</td>
</tr>
<tr>
<td>University of Antioquia, Colombia</td>
<td>105,413</td>
<td>38,899</td>
<td>66,514</td>
</tr>
<tr>
<td>University of San Marcos, Peru</td>
<td>104,400</td>
<td>42,079</td>
<td>62,321</td>
</tr>
</tbody>
</table>

To assist in modernizing clinical instruction and practice and to furnish equipment for teaching and research.

Colombian Association of Medical Schools
To enlarge the scope of the Association's conference on the teaching of internal medicine by providing for the attendance of medical educators from other Latin American countries.

FELLOWSHIPS

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
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</thead>
<tbody>
<tr>
<td>University of Bahia, Brazil</td>
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<tr>
<td>University of Recife, Brazil</td>
<td>2,962</td>
<td>2,962</td>
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<tr>
<td>University of Rio Grande do Sul, Brazil</td>
<td>5,015</td>
<td>5,015</td>
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<tr>
<td>University of São Paulo, Brazil</td>
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<td>5,135</td>
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</tr>
<tr>
<td>Catholic University of Chile</td>
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<td>4,556</td>
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<tr>
<td>University of Chile</td>
<td>9,129</td>
<td>9,129</td>
<td></td>
</tr>
<tr>
<td>University of Concepción, Chile</td>
<td>15,916</td>
<td>15,916</td>
<td></td>
</tr>
<tr>
<td>University of Antioquia, Colombia</td>
<td>13,395</td>
<td>13,395</td>
<td></td>
</tr>
<tr>
<td>University of Colombia</td>
<td>5,800</td>
<td>5,800</td>
<td></td>
</tr>
<tr>
<td>University of Costa Rica</td>
<td>6,914</td>
<td>6,914</td>
<td></td>
</tr>
<tr>
<td>University of San Carlos, Guatemala</td>
<td>5,282</td>
<td>5,282</td>
<td></td>
</tr>
<tr>
<td>University of Michoacán, Mexico</td>
<td>1,606</td>
<td>1,606</td>
<td></td>
</tr>
<tr>
<td>University of Nuevo León, Mexico</td>
<td>11,732</td>
<td>11,732</td>
<td></td>
</tr>
<tr>
<td>University of San Luis Potosí, Mexico</td>
<td>7,702</td>
<td>7,702</td>
<td></td>
</tr>
<tr>
<td>University of Panama</td>
<td>9,073</td>
<td>9,073</td>
<td></td>
</tr>
<tr>
<td>University of Asunción, Paraguay</td>
<td>3,933</td>
<td>3,933</td>
<td></td>
</tr>
<tr>
<td>University of San Marcos, Peru</td>
<td>11,720</td>
<td>11,720</td>
<td></td>
</tr>
</tbody>
</table>

To provide opportunities for selected faculty members to obtain specialized preparation in the U.S. as a part of cooperative programs to improve medical education.

NURSING

Catholic University of Chile
To assist in the improvement of nursing education by providing teaching materials.

Textbooks for Latin American Schools
To sponsor the translation of four nursing textbooks from English to Spanish and to distribute copies to schools of nursing in Latin America.
<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>University of Asunción, Paraguay</strong></td>
<td>$ 5,000</td>
<td>$ 5,000</td>
</tr>
<tr>
<td>To help develop a medical nursing unit as a clinical teaching laboratory for nursing students and to demonstrate good nursing care in the University’s principal teaching hospital.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University of Bahia, Brazil</strong></td>
<td>325</td>
<td>325</td>
</tr>
<tr>
<td>To assist in the development of the School of Nursing Library.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University of Brazil</strong></td>
<td>225</td>
<td>170</td>
</tr>
<tr>
<td>To help strengthen the teaching program of the School of Nursing by providing audio-visual equipment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University of Mexico</strong></td>
<td>1,530</td>
<td>1,530</td>
</tr>
<tr>
<td>To provide for a conference of selected individuals to review curriculum development in basic nursing and to discuss the current study programs of three nurses being prepared to teach in this new program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University of São Paulo, Brazil</strong></td>
<td>21,000</td>
<td>4,254</td>
</tr>
<tr>
<td>To assist with the development of postgraduate education in Nursing Service Administration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fellowships</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Brazil</td>
<td>3,351</td>
<td>3,351</td>
</tr>
<tr>
<td>University of Rio Grande do Sul, Brazil</td>
<td>1,023</td>
<td>1,023</td>
</tr>
<tr>
<td>University of São Paulo, Brazil</td>
<td>5,161</td>
<td>5,161</td>
</tr>
<tr>
<td>University of Chile</td>
<td>1,208</td>
<td>1,208</td>
</tr>
<tr>
<td>University of Concepción, Chile</td>
<td>6,809</td>
<td>6,809</td>
</tr>
<tr>
<td>University of El Valle, Colombia</td>
<td>1,997</td>
<td>1,997</td>
</tr>
<tr>
<td>National Institute of Nutrition, Mexico</td>
<td>10,257</td>
<td>10,257</td>
</tr>
<tr>
<td>Ministry of Public Health and Social Welfare, Paraguay</td>
<td>3,807</td>
<td>3,807</td>
</tr>
<tr>
<td>To provide opportunities for selected faculty and staff members to obtain specialized preparation in the U.S. as a part of cooperative programs to improve nursing education.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
REPORT OF THE TREASURER

PUBLIC HEALTH

Fellowships
University of São Paulo, Brazil $1,380 $1,380 $
Institute of Nutrition of Central America and Panama, Guatemala 4,646 4,646
To provide opportunities for selected staff members to obtain specialized preparation in the U.S. as a part of cooperative programs to improve professional education and public health services.

UNITED STATES

AGRICULTURE

Appalachian Resource Development, University of Kentucky $754,000 $ $754,000
To assist in the over-all economic and institutional development of a thirty-county area in Eastern Kentucky through employment of technical and organizational skills to improve conditions in the area and to serve as a demonstration program for other areas of inadequate resource development.

Fund for the International Conference of Agricultural Economists, Inc. 5,404 2,702 2,702
To provide support for the Conference's secretariat.

Intensive Extension Service
Cornell University 15,049 14,999 50
Iowa State University 11,479 11,479
North Carolina State College 9,732 9,732
Washington State University 7,440 7,440
To evaluate the effectiveness of programs to develop improved and more intensive techniques for disseminating agricultural information and encouraging its use by farmers.

Michigan State University 7,400 7,400
To provide assistance in an evaluation of a proposed program for the National Project in Agricultural Communications.
<table>
<thead>
<tr>
<th>Problems in Agricultural Adjustment</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iowa State University</td>
<td>$ 281,200</td>
<td>$ 98,300</td>
<td>$ 182,900</td>
</tr>
<tr>
<td>North Carolina State College</td>
<td>759,800</td>
<td>65,100</td>
<td>694,700</td>
</tr>
<tr>
<td>To provide assistance for programs designed to discover, evaluate, and disseminate information pertaining to problems of agricultural adjustment and public policy.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Wisconsin</td>
<td>346,905</td>
<td>184,291</td>
<td>162,614</td>
</tr>
<tr>
<td>For establishment of a National Agricultural Extension Center for Advanced Study to augment the effectiveness of the extension services by further training of agricultural extension administrators.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dentistry**

<table>
<thead>
<tr>
<th>American Association of Dental Schools</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44,000</td>
<td>21,000</td>
<td>23,000</td>
</tr>
<tr>
<td>To advance dental education through aid toward the establishment of a central office with full-time staff for more effective Association services to its members.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Council on Education</td>
<td>30,000</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>To assist in the organization and conduct of a national survey of dental education, dental research, dental health, and dental practice.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental Hygiene Achievement Testing</td>
<td>14,080</td>
<td>4,774</td>
<td>9,306</td>
</tr>
<tr>
<td>To assist in the development of a nationwide achievement testing program for students and graduates of schools of dental hygiene (Educational Trust of the American Dental Hygienists' Association, Payee).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dental Teacher Training**

| New York University                  | 119,596        | 30,435              | 89,161                |
| University of Illinois               | 73,600         |                     | 73,600                |
| To assist in the development of experimental educational programs for the training of dental teachers. |
Establishment of Dental Hygiene Education Programs

Loyola University (New Orleans) University of Rhode Island

To aid the establishment of new programs for the training of dental hygienists as a means of alleviating the dental personnel shortage in critical areas.

Michigan Health Council

To help establish a program for the placement of new dental practitioners where needed in Michigan communities.

Education

Adult Education Association of the U.S.A.

To assist the Professors of Adult Education, located in various universities and organized as a division of the Adult Education Association, to plan and conduct training programs for leaders of adult education activities.

American Association of Junior Colleges

To aid in strengthening and expanding the Association’s services by making available leadership to institutions, to state departments of education, and to local communities in the planning of community college programs.

Battle Creek Board of Education

To assist in the development of a new campus with five buildings for Battle Creek’s municipally-supported Kellogg Community College.

Battle Creek Child Guidance Clinic

For expanded child guidance services in Branch and Calhoun Counties of Michigan.

Continuing Education

University of Chicago
University of Nebraska
University of Oklahoma

To assist selected universities in the construction of facilities and the development of programs for continuing education designed to provide this type of adult education to people of varied age levels and different educational achievement.
Educational Administration

Auburn University $3,795 $3,795
Colorado State Department of Education 1,200 1,200
George Peabody College for Teachers 3,833 3,833
Stanford University 59,452 59,452
Texas Education Agency 7,974 7,974
Washington State University 12,560 12,560
University of Arkansas 4,000 4,000
University of Chicago 22,694 22,694
University of Georgia 2,028 2,028
University of Oklahoma 4,000 4,000
University of Oregon 17,302 17,302
University of Tennessee 4,000 4,000
University of Texas 2,899 2,899
Committee for the Advancement of School Administration (American Association of School Administrators of the National Education Association, Payee) 346,843 108,300 238,543
University Council for Educational Administration, Inc. 196,000 61,000 135,000

To assist universities, colleges, and professional organizations in the development of comprehensive preservice and in-service programs for the training of school administrative personnel for positions at the national, state, county, and local levels.

Michigan State University 492,138 187,700 304,438

To aid the establishment of an Institute for Community Development to help communities in Michigan to solve governmental, finance, transportation, land-use, and similar problems.

National Association of Educational Broadcasters 67,662 36,327 31,335

To improve educational radio broadcasting through the extension of a program network, using sound tape, and through expanded services of the Association's staff.
### Training Administrators for Community Colleges

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanford University</td>
<td>$125,000</td>
<td>$29,000</td>
<td>$96,000</td>
</tr>
<tr>
<td>University of California</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Berkeley — for coordination</td>
<td>75,000</td>
<td>15,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Berkeley — for program</td>
<td>125,000</td>
<td>23,900</td>
<td>101,100</td>
</tr>
<tr>
<td>Los Angeles — for program</td>
<td>124,992</td>
<td>25,596</td>
<td>99,396</td>
</tr>
<tr>
<td>Board of Control of Florida for Florida State University</td>
<td>330,490</td>
<td>69,330</td>
<td>261,160</td>
</tr>
<tr>
<td>University of Florida</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michigan State University</td>
<td>125,000</td>
<td>23,000</td>
<td>102,000</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>125,000</td>
<td>23,876</td>
<td>101,124</td>
</tr>
<tr>
<td>Wayne State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for coordination</td>
<td>87,500</td>
<td>21,500</td>
<td>66,000</td>
</tr>
<tr>
<td>for program</td>
<td>125,000</td>
<td>16,900</td>
<td>108,100</td>
</tr>
<tr>
<td>Teachers College, Columbia University</td>
<td>220,153</td>
<td>65,042</td>
<td>155,111</td>
</tr>
<tr>
<td>University of Texas</td>
<td>193,900</td>
<td>38,150</td>
<td>155,750</td>
</tr>
<tr>
<td>To assist in the development of comprehensive preservice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and in-service programs for the training of community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>college administrative personnel for positions in such</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>colleges and in national and state agencies.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Wolverine Boys' and Girls' States

Scholarships for attendance at conferences for teaching future citizenship responsibilities to outstanding youth.

### Hospitals

**Hospital Research and Educational Trust**

174,525 72,120 102,405

To aid the development of an experimental cooperative and centralized accounting service for participating hospitals in Colorado, Nebraska, and South Dakota.

**Education in Hospital Administration**

<table>
<thead>
<tr>
<th>Institution</th>
<th>127</th>
<th>127</th>
</tr>
</thead>
<tbody>
<tr>
<td>Association of University Programs in Hospital Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Columbia University—Continuing Education</td>
<td>19,142</td>
<td>19,142</td>
</tr>
<tr>
<td>Columbia University—Student Selection</td>
<td>127,000</td>
<td>43,500</td>
</tr>
<tr>
<td>Emory University</td>
<td>13,501</td>
<td>13,501</td>
</tr>
<tr>
<td>University of California</td>
<td>31,620</td>
<td>6,564</td>
</tr>
<tr>
<td>University of Chicago</td>
<td>88,400</td>
<td>28,481</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>135,178</td>
<td>17,870</td>
</tr>
</tbody>
</table>

For assistance in the improvement of hospital administration and hospital services through the development of educational programs at the graduate level.

147
**Education of Hospital Personnel**

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>$42,400</td>
<td>$18,174</td>
<td>$24,226</td>
</tr>
<tr>
<td>50,250</td>
<td>20,250</td>
<td>30,000</td>
</tr>
<tr>
<td>1,200</td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td>13,172</td>
<td>13,172</td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>10,000</td>
<td></td>
</tr>
</tbody>
</table>

**George Washington University**
To establish a loan fund for graduate students in hospital administration.

**Commission on Professional and Hospital Activities, Inc.**
For aid in the experimental development of methods to evaluate the professional activities of hospital medical staffs as a means of improving the quality of medical care.

**Intensive Patient Care**

<table>
<thead>
<tr>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>14,141</td>
<td>14,141</td>
<td></td>
</tr>
<tr>
<td>16,892</td>
<td>16,892</td>
<td></td>
</tr>
<tr>
<td>569</td>
<td>569</td>
<td></td>
</tr>
</tbody>
</table>

**James Decker Munson Hospital**
To assist in the development of a chronic care program and facility for the Grand Traverse region of Michigan.

**Michigan District Health Department No. 1**
To support a demonstration of the feasibility of a visiting nurse program in a rural community.

**University of Michigan**
For a study of hospital and medical economics in the State of Michigan.
REPORT OF THE TREASURER

MEDICINE

UNIVERSITY OF PENNSYLVANIA
To assist in evaluating the periodic health examination as an instrument for the detection of disease and the promotion of health.

$209,332 $73,029 $136,303

GRADUATE AND POSTGRADUATE MEDICAL EDUCATION

Baltimore, Maryland, City Hospitals
University of Wisconsin
To improve medical services through the strengthening of graduate and postgraduate medical education programs.

33,000 10,200 22,800
20,000 7,619 12,381

ASSOCIATION OF AMERICAN MEDICAL COLLEGES
For the support of operational studies of education, research, and service aspects of American medical schools.

400,000 100,000 300,000

UNIVERSITY OF NEW MEXICO
To assist in establishing a school of the basic medical sciences through aid for the employment of teaching personnel and construction of a facility.

1,082,300 47,380 1,034,920

TEACHING OF PREVENTIVE MEDICINE

State University of New York
Union University-Albany Medical College
University of Louisville
University of Oklahoma
Vanderbilt University
To assist in development of new teaching methods and to expand the content of programs for the teaching of preventive medicine.

34,715 34,715
40,073 14,918 25,155
4,869 3,349 1,520
41,317 20,657 20,660
4,316 4,316

THE STATE UNIVERSITY OF IOWA
To aid the establishment of the Institute of Agricultural Medicine, for research and communications directed to the prevention of diseases and hazards associated with the farmer’s environment.

48,000 23,636 24,364

UNIVERSITY OF KANSAS MEDICAL CENTER
To help develop the technological aspects of television for improved teaching of diagnostic, therapeutic, and other clinical procedures, and to evaluate the use of television as a medical teaching medium.

21,607 20,227 1,380
University of Michigan  
To assist in a program for the training of teachers in the area of human genetics.

**NURSING**

**ASSOCIATE DEGREE PROGRAMS IN NURSING**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations August 31, 1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>California State Department of Education</td>
<td>156,533</td>
<td>37,968</td>
<td>118,565</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>160,500</td>
<td>15,622</td>
<td>144,878</td>
</tr>
<tr>
<td>Valley College (Los Angeles City Board of Education, Payee)</td>
<td>65,480</td>
<td>8,288</td>
<td>57,192</td>
</tr>
<tr>
<td>Florida State Department of Education</td>
<td>289,800</td>
<td>41,993</td>
<td>247,807</td>
</tr>
<tr>
<td>University of Florida</td>
<td>110,530</td>
<td>16,700</td>
<td>93,830</td>
</tr>
<tr>
<td>New York State Department of Education</td>
<td>297,780</td>
<td>69,549</td>
<td>228,231</td>
</tr>
<tr>
<td>Teachers College, Columbia University</td>
<td>188,613</td>
<td>26,917</td>
<td>161,696</td>
</tr>
<tr>
<td>Odessa College, Texas</td>
<td>30,300</td>
<td>15,900</td>
<td>14,400</td>
</tr>
<tr>
<td>University of Texas</td>
<td>90,675</td>
<td>90,675</td>
<td></td>
</tr>
</tbody>
</table>

To aid the improvement and expansion of Associate Degree programs in nursing in community-junior colleges as a means of improving the quality and quantity of nursing services.

**GRADUATE EDUCATION IN NURSING**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Alabama</td>
<td>12,996</td>
<td>6,400</td>
<td>6,596</td>
</tr>
<tr>
<td>University of Maryland</td>
<td>2,211</td>
<td>2,211</td>
<td></td>
</tr>
<tr>
<td>University of Texas</td>
<td>4,949</td>
<td>4,949</td>
<td></td>
</tr>
<tr>
<td>Vanderbilt University</td>
<td>12,649</td>
<td>5,769</td>
<td>6,880</td>
</tr>
</tbody>
</table>

To assist in establishing graduate education programs in nursing in the South.

**MICHIGAN LEAGUE FOR NURSING**

To aid a meeting of high school Future Nurse Clubs under the auspices of the Southwestern Michigan League for Nursing.

**NATIONAL LEAGUE FOR NURSING, INC.**

To develop a teacher-training program for graduate nurses responsible for the in-service instruction of hospital nursing aides.

**UNIVERSITY OF OKLAHOMA**

To assist in the development of a program leading to the baccalaureate degree for graduate nurses.
REPORT OF THE TREASURER

WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION

To provide an intensive in-service education program for a selected group of nurses in leadership positions.

$19,173 $19,173 $

To establish an organizational framework for regional cooperation to be developed by schools of nursing in the West through the Western Council for Higher Education in Nursing.

74,679 34,135 40,544

PUBLIC HEALTH

AMERICAN PUBLIC HEALTH ASSOCIATION

50,000 50,000

To assist the Association in re-orienting and expanding its program of services to the public and to the public health profession.

COLUMBIA UNIVERSITY

19,142 19,142

To help establish continuing education programs for hospital, official and voluntary health agency personnel in the Mid-Atlantic and New England areas.

COMMUNITY HEALTH ADMINISTRATION STUDIES

California Department of Public Health 100,631 23,943 76,688
Florida State Board of Health 146,400 22,183 124,217
Johns Hopkins University 64,459 24,820 39,639
University of Michigan 136,160 32,192 103,968
Washington State Department of Health 168,418 33,365 135,053

To assist schools of public health and official health agencies in developing and conducting community health administration studies.

COORDINATING COUNCIL FOR THE AGING OF GRAND RAPIDS AND KENT COUNTY

16,634 8,032 8,602

To assist in the development of a comprehensive community program on problems of the aging.
### Appropriations Fiscal Year Payments Unpaid Appropriations

#### SIGHT CONSERVATION

<table>
<thead>
<tr>
<th>Organization</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Printing House for the Blind</td>
<td>$20,000</td>
<td>$5,000</td>
<td>$15,000</td>
</tr>
<tr>
<td>Franklin Institute</td>
<td>166</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td><strong>To develop sensory aids for the partially sighted and the blind.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### GENERAL

**BATTLE CREEK AREA UNITED FUND**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15,010</td>
<td>15,010</td>
<td></td>
</tr>
<tr>
<td><strong>For an annual contribution to the allied charities of the community.</strong></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**CITY OF BATTLE CREEK-TOWNSHIP OF BATTLE CREEK**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,500</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td><strong>To provide for a study of taxation costs as related to the unification of these two governmental units.</strong></td>
<td></td>
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</table>

**FOUNDATION LIBRARY CENTER**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>400,000</td>
<td>400,000</td>
<td></td>
</tr>
<tr>
<td><strong>To assist in establishing a sustaining fund to support the central services of the Center.</strong></td>
<td></td>
<td></td>
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</tbody>
</table>

**THE JOHNS HOPKINS UNIVERSITY, SCHOOL OF ADVANCED INTERNATIONAL STUDIES**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Appropriations</th>
<th>Fiscal Year Payments</th>
<th>Unpaid Appropriations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>278,000</td>
<td>278,000</td>
<td></td>
</tr>
<tr>
<td><strong>To assist in the development of the School's Latin American program, including career training and practical social and economic research.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Totals

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
<th>Amount</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Totals</td>
<td>$21,841,348</td>
<td>$7,990,291</td>
<td>$13,851,057</td>
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<tr>
<td>Refunds on payments made in prior years</td>
<td>(65,559)</td>
<td>(65,559)</td>
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<tr>
<td>Administration</td>
<td>448,673</td>
<td>448,673</td>
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<tr>
<td>Appropriated but not committed</td>
<td>6,654,069</td>
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**$28,878,531** $8,373,405 $20,505,126

152
# REPORT OF THE TREASURER

## SECURITIES HELD AUGUST 31, 1960

### BONDS

<table>
<thead>
<tr>
<th>Type</th>
<th>Face Amount</th>
<th>Book Amount</th>
<th>Quoted Market</th>
</tr>
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<tbody>
<tr>
<td><strong>U. S. Government</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Treasury Bills due 10-6-60</td>
<td>$2,663,000</td>
<td>$2,646,915</td>
<td>$2,657,674</td>
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<tr>
<td>Treasury Notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4s due 5-15-63</td>
<td>200,000</td>
<td>199,938</td>
<td>203,500</td>
</tr>
<tr>
<td>3½s due 5-15-64</td>
<td>322,000</td>
<td>322,000</td>
<td>325,027</td>
</tr>
<tr>
<td>4½s due 5-15-64</td>
<td>400,000</td>
<td>400,000</td>
<td>417,240</td>
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<tr>
<td>4½s due 5-15-65</td>
<td>100,000</td>
<td>100,000</td>
<td>104,310</td>
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<tr>
<td>Treasury Bonds</td>
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<tr>
<td>2½s due 9-15-61</td>
<td>200,000</td>
<td>200,057</td>
<td>199,560</td>
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<tr>
<td>2½s due 11-15-61</td>
<td>56,000</td>
<td>56,000</td>
<td>55,653</td>
</tr>
<tr>
<td>2½s due 6-15-62/59</td>
<td>500,000</td>
<td>500,000</td>
<td>492,800</td>
</tr>
<tr>
<td>2½s due 12-15-62/59</td>
<td>1,068,000</td>
<td>1,068,000</td>
<td>1,049,310</td>
</tr>
<tr>
<td>2½s due 8-15-63</td>
<td>351,000</td>
<td>351,000</td>
<td>343,313</td>
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<tr>
<td>3s due 2-15-64</td>
<td>345,000</td>
<td>347,696</td>
<td>340,688</td>
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<tr>
<td>2½s due 2-15-65</td>
<td>475,000</td>
<td>469,750</td>
<td>458,945</td>
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<tr>
<td>2½s due 6-15-67/62</td>
<td>24,000</td>
<td>23,321</td>
<td>22,651</td>
</tr>
<tr>
<td>2½s due 6-15-69/64</td>
<td>550,000</td>
<td>532,813</td>
<td>499,840</td>
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<tr>
<td>4s due 10-1-69</td>
<td>200,000</td>
<td>200,000</td>
<td>203,760</td>
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<tr>
<td>4s due 2-15-80</td>
<td>500,000</td>
<td>495,187</td>
<td>505,950</td>
</tr>
<tr>
<td>Twelve Federal Land Banks</td>
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<td></td>
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<tr>
<td>2½s due 5-1-63</td>
<td>300,000</td>
<td>300,000</td>
<td>294,000</td>
</tr>
<tr>
<td>3½s due 5-2-66</td>
<td>400,000</td>
<td>402,438</td>
<td>388,000</td>
</tr>
<tr>
<td>4½s due 3-20-69</td>
<td>100,000</td>
<td>98,500</td>
<td>101,500</td>
</tr>
<tr>
<td>4½s due 10-1-70/67</td>
<td>245,000</td>
<td>244,731</td>
<td>248,675</td>
</tr>
<tr>
<td>4½s due 2-15-72/67</td>
<td>100,000</td>
<td>100,609</td>
<td>99,500</td>
</tr>
<tr>
<td>5½s due 7-20-70</td>
<td>100,000</td>
<td>101,000</td>
<td>107,000</td>
</tr>
<tr>
<td><strong>Municipal Revenue</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicago O'Hare International Airport</td>
<td>100,000</td>
<td>103,126</td>
<td>110,000</td>
</tr>
<tr>
<td>4½s due 1-1-99/65</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public Utility</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>American Telephone &amp; Telegraph Co.</td>
<td>100,000</td>
<td>102,250</td>
<td>107,375</td>
</tr>
<tr>
<td>5½s due 11-1-86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appalachian Electric Power Co.</td>
<td>50,000</td>
<td>50,810</td>
<td>49,500</td>
</tr>
<tr>
<td>3½s Serial Notes due 10-1-61</td>
<td>150,000</td>
<td>153,627</td>
<td>146,438</td>
</tr>
<tr>
<td>3½s Serial Notes due 10-1-63</td>
<td>100,000</td>
<td>102,820</td>
<td>90,500</td>
</tr>
<tr>
<td>3½s due 12-1-70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baltimore Gas &amp; Electric Co.</td>
<td>100,000</td>
<td>101,875</td>
<td>106,250</td>
</tr>
<tr>
<td>4½s due 6-1-80/60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Illinois Light Co.</td>
<td>100,000</td>
<td>98,750</td>
<td>101,000</td>
</tr>
<tr>
<td>4½s due 7-1-87</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

153
<table>
<thead>
<tr>
<th>Bonds</th>
<th>Face Amount</th>
<th>Book Amount</th>
<th>Quoted Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cities Service Gas Co.</td>
<td>$99,000</td>
<td>$99,000</td>
<td>$96,030</td>
</tr>
<tr>
<td>4½% due 1-1-77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Columbia Gas System, Inc.</td>
<td>100,000</td>
<td>101,915</td>
<td>89,000</td>
</tr>
<tr>
<td>Deb. 3½% due 7-1-79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commonwealth Edison Co.</td>
<td>100,000</td>
<td>100,000</td>
<td>88,000</td>
</tr>
<tr>
<td>3½% due 6-1-86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated Edison Co. of New York, Inc.</td>
<td>100,000</td>
<td>101,229</td>
<td>90,750</td>
</tr>
<tr>
<td>3½% due 5-1-86</td>
<td>100,000</td>
<td>100,799</td>
<td>104,000</td>
</tr>
<tr>
<td>4½% due 6-1-90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated Natural Gas Co.</td>
<td>100,000</td>
<td>99,875</td>
<td>105,500</td>
</tr>
<tr>
<td>Deb. 5% due 2-1-85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas Service Co. S.F. Deb.</td>
<td>90,000</td>
<td>90,000</td>
<td>85,050</td>
</tr>
<tr>
<td>3½% due 10-1-75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Telephone Co. of Florida</td>
<td>100,000</td>
<td>103,312</td>
<td>103,500</td>
</tr>
<tr>
<td>5% due 3-1-90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illinois Power Co.</td>
<td>100,000</td>
<td>99,875</td>
<td>90,500</td>
</tr>
<tr>
<td>3½% due 7-1-86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiana Gas &amp; Water Co.</td>
<td>98,000</td>
<td>98,000</td>
<td>81,340</td>
</tr>
<tr>
<td>3½% due 9-1-80</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New England Telephone &amp; Telegraph Co.</td>
<td>250,000</td>
<td>250,000</td>
<td>251,250</td>
</tr>
<tr>
<td>4½% due 5-1-61/58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York Steam Corp.</td>
<td>100,000</td>
<td>101,904</td>
<td>98,500</td>
</tr>
<tr>
<td>3½% due 7-1-63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Illinois Gas Co.</td>
<td>200,000</td>
<td>206,272</td>
<td>181,000</td>
</tr>
<tr>
<td>3½% due 1-1-79</td>
<td>200,000</td>
<td>201,397</td>
<td>206,000</td>
</tr>
<tr>
<td>5% due 6-1-84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Natural Gas Co. S.F. Deb.</td>
<td>150,000</td>
<td>151,885</td>
<td>134,250</td>
</tr>
<tr>
<td>3½% due 11-1-73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwestern Bell Telephone Co. Deb.</td>
<td>100,000</td>
<td>100,750</td>
<td>104,125</td>
</tr>
<tr>
<td>4½% due 6-1-98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio Power Co.</td>
<td>100,000</td>
<td>100,641</td>
<td>94,250</td>
</tr>
<tr>
<td>3½% due 10-1-68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific Gas &amp; Electric Co.</td>
<td>100,000</td>
<td>100,740</td>
<td>105,000</td>
</tr>
<tr>
<td>5% due 6-1-89</td>
<td>100,000</td>
<td>100,000</td>
<td>100,750</td>
</tr>
<tr>
<td>4½% due 6-1-90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panhandle Eastern Pipe Line Co. Deb.</td>
<td>150,000</td>
<td>149,625</td>
<td>130,125</td>
</tr>
<tr>
<td>3½% due 11-1-74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philadelphia Electric Co.</td>
<td>100,000</td>
<td>96,750</td>
<td>91,500</td>
</tr>
<tr>
<td>2½% due 11-1-67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Service Electric &amp; Gas Co. Deb.</td>
<td>153,000</td>
<td>154,275</td>
<td>148,028</td>
</tr>
<tr>
<td>3% due 11-1-63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## REPORT OF THE TREASURER

### BONDS

<table>
<thead>
<tr>
<th>Company</th>
<th>Face Amount</th>
<th>Book Amount</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern California Edison Co. Ltd. 3s due 9-1-65</td>
<td>$150,000</td>
<td>$152,118</td>
<td>$142,875</td>
</tr>
<tr>
<td>Southern California Edison Co. 43/4s due 7-1-82</td>
<td>100,000</td>
<td>100,672</td>
<td>101,750</td>
</tr>
<tr>
<td>Southern Natural Gas Co. 4s due 5-1-73</td>
<td>170,000</td>
<td>168,300</td>
<td>162,350</td>
</tr>
<tr>
<td>Tennessee Gas Transmission Co. 35/8s due 6-1-74</td>
<td>198,000</td>
<td>201,178</td>
<td>179,190</td>
</tr>
<tr>
<td>Texas Electric Service Co. 41/4s due 7-1-87</td>
<td>100,000</td>
<td>101,504</td>
<td>102,875</td>
</tr>
<tr>
<td>Union Electric Co. 33/4s due 7-1-86</td>
<td>100,000</td>
<td>99,375</td>
<td>90,500</td>
</tr>
<tr>
<td>West Penn Power Co. 41/2s due 7-1-87</td>
<td>100,000</td>
<td>101,559</td>
<td>102,500</td>
</tr>
<tr>
<td>Wisconsin Electric Power Co. 37/8s due 4-15-86</td>
<td>100,000</td>
<td>101,659</td>
<td>93,500</td>
</tr>
<tr>
<td>Wisconsin Public Service Corp. 31/4s due 1-1-71</td>
<td>100,000</td>
<td>102,761</td>
<td>90,250</td>
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</table>

### RAILROAD EQUIPMENT TRUST CERTIFICATES

<table>
<thead>
<tr>
<th>Company</th>
<th>Face Amount</th>
<th>Book Amount</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chesapeake &amp; Ohio Railway Co. 33/8s due 6-4-68</td>
<td>100,000</td>
<td>99,755</td>
<td>94,500</td>
</tr>
<tr>
<td>Chicago, Burlington &amp; Quincy R.R. Co. 25/8s due 7-1-63</td>
<td>50,000</td>
<td>50,000</td>
<td>48,250</td>
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<tr>
<td></td>
<td>50,000</td>
<td>49,891</td>
<td>47,375</td>
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<tr>
<td></td>
<td>50,000</td>
<td>49,764</td>
<td>46,750</td>
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<tr>
<td></td>
<td>50,000</td>
<td>49,279</td>
<td>44,750</td>
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<tr>
<td>Chicago, Rock Island &amp; Pacific R.R. 33/8s due 11-1-63</td>
<td>100,000</td>
<td>100,000</td>
<td>97,500</td>
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<tr>
<td></td>
<td>50,000</td>
<td>50,069</td>
<td>49,188</td>
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<td>Erie Railroad Co. 33/8s due 6-15-68</td>
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<td>100,172</td>
<td>90,500</td>
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<tr>
<td>Great Northern Railway Co. 41/4s due 2-1-68</td>
<td>100,000</td>
<td>98,752</td>
<td>100,125</td>
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<tr>
<td>Illinois Central Railroad Co. 3s due 3-1-65</td>
<td>50,000</td>
<td>49,380</td>
<td>47,562</td>
</tr>
<tr>
<td></td>
<td>50,000</td>
<td>49,207</td>
<td>47,062</td>
</tr>
<tr>
<td>Louisville &amp; Nashville R.R. Co. 3.20s due 1960-66</td>
<td>130,500</td>
<td>130,500</td>
<td>130,500*</td>
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<tr>
<td></td>
<td>100,000</td>
<td>99,273</td>
<td>101,125</td>
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*Not quoted
<table>
<thead>
<tr>
<th>BONDS</th>
<th>FACE AMOUNT</th>
<th>BOOK AMOUNT</th>
<th>QUOTED MARKET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Co. — Series X</td>
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<td></td>
</tr>
<tr>
<td>3¼s due 4-1-64</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$9,625</td>
</tr>
<tr>
<td>3¼s due 10-1-64</td>
<td>15,000</td>
<td>15,000</td>
<td>14,344</td>
</tr>
<tr>
<td>3¼s due 10-1-65</td>
<td>30,000</td>
<td>30,000</td>
<td>28,350</td>
</tr>
<tr>
<td>3¼s due 4-1-68</td>
<td>20,000</td>
<td>20,000</td>
<td>18,325</td>
</tr>
<tr>
<td>3¼s due 10-1-68</td>
<td>25,000</td>
<td>25,000</td>
<td>22,781</td>
</tr>
<tr>
<td>Southern Pacific Co.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Series “GG” 2¼s due 9-1-60</td>
<td>2,000</td>
<td>2,009</td>
<td>1,992</td>
</tr>
<tr>
<td>Series “SS” 3¼s due 1-1-64</td>
<td>100,000</td>
<td>100,000</td>
<td>96,750</td>
</tr>
<tr>
<td>Series “KK” 3¾s due 9-1-66</td>
<td>100,000</td>
<td>99,738</td>
<td>94,375</td>
</tr>
<tr>
<td>Wabash Railroad Co.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3½s due 9-1-65/58</td>
<td>100,000</td>
<td>98,044</td>
<td>94,500</td>
</tr>
<tr>
<td>Western Maryland Railway Co.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3½s due 6-1-70</td>
<td>100,000</td>
<td>100,208</td>
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<tr>
<td>4½s due 7-15-66</td>
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<td>100,000</td>
<td>101,000</td>
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**Other Corporate**

| Aluminum Co. of America S.F. Deb. | | | |
| 3s due 6-1-79 | 100,000 | 100,000 | 84,000 |
| Aluminum Co. of Canada S.F. Deb. | | | |
| 3¾s due 5-1-70 | 100,000 | 101,308 | 98,750 |
| American Can Co. Deb. | | | |
| 3¾s due 4-1-88 | 100,000 | 100,267 | 93,000 |
| Armco Steel Corp. S.F. Deb. | | | |
| 4½s due 4-1-84 | 100,000 | 100,000 | 99,250 |
| Associates Investment Co. Notes | | | |
| 3½s due 2-1-67 | 250,000 | 250,000 | 232,950 |
| Automatic Electric Co. S.F. Deb. | | | |
| 4½s due 5-1-78 | 100,000 | 100,000 | 98,375 |
| 4½s due 7-1-66 | 100,000 | 99,000 | 101,000 |
| Commercial Credit Co. Note | | | |
| 3¼s due 6-15-61 | 3,000 | 3,000 | 2,970 |
| Container Corp. of America Deb. | | | |
| 3.30s due 7-1-80 | 100,000 | 97,719 | 82,000 |
| Corn Products Co. Deb. | | | |
| 4½s due 10-1-83 | 100,000 | 106,777 | 103,875 |
| Crown Zellerbach Corp. Note | | | |
| 4½s due 12-1-81 | 200,000 | 200,000 | 188,000 |
| Diamond Gardner Corp. S.F. Deb. | | | |
| 4s due 4-1-83 | 100,000 | 100,000 | 91,000 |
# REPORT OF THE TREASURER

## BONDS

<table>
<thead>
<tr>
<th>Bond Description</th>
<th>Face Amount</th>
<th>Book Amount</th>
<th>Quoted Market</th>
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<tr>
<td>Ford Motor Co. Notes 4s due 11-1-76</td>
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<td>Gerber Products Co. S.F. Deb. 5s due 10-15-59/4-15-69</td>
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<td>B. F. Goodrich Co. 2¾s due 5-1-65</td>
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<td>Grace Line, Inc. SS Santa Paula Series 4.20s due 10-1-78</td>
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<td>Interstate Oil Pipe Line Co. S.F. Deb. 3½s due 3-1-77</td>
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<td>Koppers Co., Inc. 3s due 10-1-64</td>
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<tr>
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<th>BOOK AMOUNT</th>
<th>QUOTED MARKET</th>
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<td>Libby, McNeill &amp; Libby S.F. Deb. 3½s due 5-15-79/59</td>
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<td>$97,000</td>
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<td>National Cash Register Co. S.F. Deb. 4¾s due 6-1-85</td>
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<td>National Supply Co., Deb. 2¾s due 6-1-67</td>
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<tr>
<td>Natural Gas Pipe Line Co. of America 4½% s due 11-1-78</td>
<td>100,000</td>
<td>100,835</td>
<td>99,500</td>
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<td>Pacific Finance Corp. Deb. 3½s due 7-1-65</td>
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<td>59,400</td>
<td>56,400</td>
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<tr>
<td>Securities Acceptance Corp. of Omaha Note 4½% s due 2-1-69/64</td>
<td>90,000</td>
<td>87,975</td>
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<td>Service Pipe Line Co. S.F. Deb. 3.20s due 4-1-82</td>
<td>175,000</td>
<td>179,301</td>
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<td>Shamrock Oil &amp; Gas Corp. S.F. Deb. 3½s due 4-1-67</td>
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<td>Standard Oil Co. of California S.F. Deb. 4½% s due 7-1-83</td>
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<td>Standard Oil Co. of Indiana Deb. 4½s due 10-1-83</td>
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<td>103,720</td>
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<td>Superior Oil Co. Deb. 3½% s due 7-1-81</td>
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<td>Swift &amp; Co. Deb. 4½% s due 10-1-83/63</td>
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<td>100,000</td>
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<td>Tremarco Corp. Instal. Notes 3½% s due 1957-82</td>
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<td>268,829</td>
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<td>Union Tank Car Co. S.F. Deb. 3½% s due 10-15-75</td>
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<td>2.60s due 8-1-62</td>
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<td>2.65s due 8-1-64</td>
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<td>Westinghouse Air Brake Co. S.F. Deb. 3½% s due 9-1-78</td>
<td>100,000</td>
<td>99,500</td>
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<td>West Virginia Pulp &amp; Paper Co. Deb. 4s due 1-1-78</td>
<td>100,000</td>
<td>101,639</td>
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# REPORT OF THE TREASURER

## BONDS

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<tr>
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<th>FACE AMOUNT</th>
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<tr>
<td>British Columbia Power Commission S. F. Deb. 3 3/4s due 6-15-86/61</td>
<td>$100,000</td>
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<td>$85,500</td>
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<tr>
<td>Metropolitan Toronto, Canada S.F. Deb. 5% due 6-1-79/74</td>
<td>200,000</td>
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<td>209,000</td>
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<tr>
<td>Province of Ontario, Canada Deb. 3 1/4s due 5-1-63</td>
<td>150,000</td>
<td>149,750</td>
<td>148,125</td>
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<tr>
<td>Province of Ontario, Canada Deb. 3 1/4s due 9-1-72/56</td>
<td>200,000</td>
<td>200,000</td>
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<tr>
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<td>Vancouver, B.C. Canada, S.F. Deb. 4 1/4s due 10-15-73</td>
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<th>COMMON STOCKS</th>
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<tr>
<td>Aluminum Co. of America</td>
<td>2,400</td>
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<td>Atlas Properties, Inc.</td>
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<td>Central Illinois Light Co.</td>
<td>3,700</td>
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<td>Central &amp; South West Corp.</td>
<td>7,600</td>
<td>129,200</td>
<td>286,900</td>
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<td>Commonwealth Edison Co.</td>
<td>3,340</td>
<td>86,722</td>
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<td>Consumers Power Co.</td>
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<td>E. I. duPont de Nemours &amp; Co.</td>
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<td>Eastman Kodak Co.</td>
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<td>Ford Motor Co.</td>
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<td>Gulf Oil Corp.</td>
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<td>Kimberly-Clark Corp.</td>
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<td>Minnesota Mining &amp; Manufacturing Co.</td>
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<td>West Virginia Pulp &amp; Paper Co.</td>
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<th>BOOK AMOUNT</th>
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<td>Kaiser Aluminum &amp; Chemical Corp.</td>
<td>2,000</td>
<td>103,750</td>
<td>90,500</td>
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<td>Kellogg Co.</td>
<td>77,928</td>
<td>7,096,395</td>
<td>6,078,384</td>
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<td><strong>Total</strong></td>
<td><strong>$12,411,590</strong></td>
<td><strong>$19,865,567</strong></td>
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INTERNATIONAL FELLOWSHIPS, 1960

Following the name of each Fellow is shown the university or agency in behalf of which the fellowship was awarded. Listed are all Fellows who were in the United States a minimum of thirty days during the fiscal year. The subject matter of the awards is indicated where not implied by professional degrees or designations following names.

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Theresinha da Costa Avila, R.N. University of Rio Grande do Sul
José Basile Netto, D.D.S. University of São Paulo
Aurélio Borelli, M.D. University of São Paulo

*Lourdes de Freitas Carvalho, M.D. (Hosp. Admin.) University of São Paulo
Paulo Augusto Ayroza Galvão, M.D. University of São Paulo
Yaro Ribeiro Gandra, M.D. University of São Paulo
Jeny Gibertoni, R.N. University of São Paulo
Eleutério Araújo Martins, D.D.S. University of Rio Grande do Sul
Luciano Pedreira de Cerqueira, M.D. University of Bahia
Alvaro Rabelo Alves, Jr., M.D. University of Bahia
Maria Francisca Rangel, R.N. University of Brazil
Gilberto Rebouças, M.D. University of Bahia
Mário Rigatto, M.D. University of Rio Grande do Sul
Jaime Scherb, M.D. University of Recife

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Carlos Gigoux Castellón, D.D.S. University of Concepción
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José Exequiel González Geldres, M.D. University of Concepción
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Adolfo Jarpa Fernández, M.D. University of Concepción
Lívio Paolinelli Monti, M.D. University of Chile
Carlos Quintana Villar, M.D. Catholic University of Chile
*Guillermo Repetto Dapelo, M.D. University of Concepción
Alejandro Vázquez Godoy, M.D. Catholic University of Chile
*Ennio Vivaldi Cichero, M.D. University of Concepción

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Bernardo Chica Molina, M.D. (Hosp. Admin.) University of Antioquia
Enrique Echeverri Guzmán, D.D.S. National University of Colombia

*Second fellowship
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Hernán Vélez Atehortúa, M.D. ....................................................... University of Antioquia

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Eduardo Carrillo Echeverría, D.D.S. .............................................. University of Costa Rica
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Saeed Mekbel Achit, M.D. ............................................................ University of Costa Rica
Pablo Montes De Oca Vásquez, D.D.S. ......................................... University of Costa Rica

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Jørgen Vittrup Christensen (Agriculture) .................................. Ministry of Agriculture
Inger Kirstine Nielsen (Home Economics) .................................... Ministry of Agriculture
Vagn Egil Petersen (Agriculture) ................................................. Ministry of Agriculture
Jutta Lis Rasmussen (Agriculture) .............................................. Ministry of Agriculture

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Christopher Michael Hann (Agriculture) .................................... Ministry of Agric., Fisheries & Food
Geoffrey Harrington (Agriculture) .............................................. Agricultural Research Council
Norman Hilton (Agriculture) ....................................................... Ministry of Agric., Fisheries & Food
Dennis Hurst (Agriculture) .......................................................... Ministry of Agric., Fisheries & Food
John King (Agriculture) .............................................................. Agricultural Research Council
Charles Arnold Marsh (Agriculture) ............................................ Agricultural Research Council
Paul Walter Edward Murphy (Agriculture) ................................... University of Nottingham
John Pollard (Agriculture) .......................................................... Ministry of Agric., Fisheries & Food
Derek Rodney Smith (Agriculture) .............................................. Ministry of Agric., Fisheries & Food
Norman John Sneesby (Agriculture) .......................................... Ministry of Agric., Fisheries & Food
William Matthew Waller (Agriculture) ....................................... Ministry of Agric., Fisheries & Food
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Manuel Nava y Gutiérrez de Velasco, M.D. .... University of San Luis Potosí
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