

THE ROCKEFELLER FOUNDATION

GRANTS made by the Rockefeller Foundation for the second quarter, 1956, have recently been published. The following are some examples of work being supported by the Foundation to a total of nearly seven million dollars.

For the first time a high-powered nuclear reactor will be equipped with a special opening to provide streams of energy solely for medical and biological research. The design of the new 1,000 kilowatt nuclear reactor now under construction by the Massachusetts Institute of Technology is being altered to include an extra port on one of its faces. The Rockefeller Foundation has appropriated 250,000 dollars for the addition of this special medical facility.

Research on low-cost, protein-rich foods to improve the diets of food-deficient populations will be the object of two projects which the Rockefeller Foundation will assist during the next three years. A grant of 250,000 dollars to the U.S. National Research Council will be used for studying the nutritional value of proteins in products available in underdeveloped countries. The London School of Hygiene and Tropical Medicine in England will use a grant of £17,000 for research on the biological value of proteins in tropical foodstuffs.

The Rockefeller Foundation has renewed its aid to the Rural University of the State of Minas Gerais, Brazil, with a grant of 200,000 dollars for the further development of its School of Agriculture and Agricultural Experiment Station during the next three years.

To support a programme of research on plant and animal genetics, under the leadership of Profs. H. J. Muller, T. M. Sonneborn and R. E. Cleland, the Rockefeller Foundation has made an outright grant of 350,000 dollars to the University of Indiana—an important centre for genetics research. The grant will enable Prof. Muller to continue his research on the modifications of individual genes. Prof. Sonneborn has developed an almost uniquely personal field of study by utilizing the rapidly reproducing *Paramecium* to show that inheritable characters depend not only upon chromosomal structures within the cell nucleus, but also upon elements which may be found in the cytoplasm and which behave in part like genes and in part like viruses. This discovery may have an important bearing on research in the heredity of mammalian cancer. Prof. Cleland, applying the genetic theory to the evolution of plants, has shown how a stable recombination of genes can be selected by environmental pressures to produce entirely new species. The work of the Indiana group is also being supported by the Atomic Energy Commission, the National Science Foundation and the American Cancer Society.

A 260,000-dollar grant will be used over the next three years for purchasing basic research equipment for two newly created science institutes at the University of Copenhagen. New buildings now under construction will house the institutes. The Institute of Biology's new building will permit expansion of existing departments of the Faculty of Science and the creation of new ones. The Marshall Plan, the Carlsberg Founda-

tion, industry and the Danish State have combined to furnish funds for construction. The Institute of Experimental Medicine and Surgery, where research is concentrated in areas of medicine between the purely basic sciences and clinical fields, will also have new quarters. Danish insurance companies contributed a major share of the building fund, which was augmented by a government grant of land and money. Danish botanists, who have made significant contributions in the study and cultivation of arctic plants, will also have a new cold house where meteorological conditions in Greenland can be approximated. A portion of the current Rockefeller grant will be matched by funds from Danish sources for construction of the cold house as an adjunct to the Institute of Biology.

Of the many research laboratories which are making rapid advances towards an understanding of the nature of viruses, one of the most prominent is that of Prof. Barry Commoner at Washington University, St. Louis, Missouri. For general support of Prof. Commoner's research programme, the Rockefeller Foundation has appropriated 165,000 dollars, available during the next four years.

The collaborative biological and biochemical researches in genetics, cytology and evolution at the Johns Hopkins University, an integrated programme of the Department of Biology and the McCollum-Pratt Institute, will be supported by an outright Rockefeller Foundation grant of 100,000 dollars. Prof. W. D. McElroy, director of the Institute and newly appointed chairman of the Department of Biology, will lead the consolidated research programme. Prof. B. H. Willier, distinguished embryologist and recently retired chairman of the Department of Biology, will continue to be active in research.

Support for an unusual biological research programme in a liberal arts college setting will be continued by an outright Foundation grant of 100,000 dollars to Amherst College. Inaugurated at Amherst in 1934, the research activity is concentrated in genetics and embryology. Under the leadership of Prof. Harold H. Plough, chairman of the Department of Biology, the work has resulted in a substantial increase in the number of students entering on careers in the biological and medical sciences.

The molecular mechanisms by which fungicides produce their effects in controlling plant diseases will be studied intensively in a new research project at the Boyce-Thompson Institute for Plant Research, Yonkers, New York, directed by Dr. George E. McNew. A grant of 105,000 dollars from the Rockefeller Foundation will give partial support to this project over a five-year period.

To further the development of agriculture in Puerto Rico, the Bureau of the Budget of the Commonwealth will review the organization and administration of insular agricultural agencies through a survey to be supervised by Dr. José Noguera, director of the bureau. The Rockefeller Foundation has appropriated 85,000 dollars to the Commonwealth of Puerto Rico to assist with the expenses of the survey during the next two years.

As part of its world-wide programme to investigate and assist investigations of arthropod-borne virus diseases, the Rockefeller Foundation has appropriated about 73,800 dollars, available over the next five years, to the University of Malaya, Singapore, to aid further research on Japanese *B* encephalitis and other virus diseases by the Department of Bacteriology.

In support of basic research on the nature of viruses, the major effort of the Walter and Eliza Hall Institute of Medical Research, Australia, an eight-year grant of 60,000 dollars has been made by the Foundation. The programme dealing with various phases of virus research is under the supervision of Sir Macfarlane Burnet, a leading investigator of the biology of viruses and director of the Institute, whose studies on the genetics of influenza viruses have resulted in a series of highly important findings.

Two Rockefeller Foundation grants totalling 80,000 dollars have been made to Balwant Rajput College in India to aid rural students and to promote the development of an agricultural training centre on a new 436-acre experimental farm. An outright grant of 10,000 dollars will provide a scholarship and revolving loan fund for local students. The second Rockefeller appropriation of 70,000 dollars will be used over a three-year period for building and equipping classrooms, laboratories and a library at the new site of the College of Agriculture. The College, affiliated with Agra University, is successfully bridging the gap between agricultural theory and local practice in its efforts to improve rural life.

The biochemical research of Dr. J. H. Quastel, director of the Institute of Special Research in Cell Metabolism in Montreal, will be aided by a new five-year grant of about 56,650 dollars to McGill University. The work of Dr. Quastel has been supported by the Foundation since 1936, when he held a medical sciences fellowship. Dr. Quastel will conduct a new series of laboratory studies of the effects on the processes of cell metabolism of tranquillizing and other drugs used in the treatment of mental illness. One of the first biochemists to apply modern biochemical methods to study of the brain, he will return to this field of his earlier interest in view of important recent clinical findings on drug therapy and psychosis. His early discovery of the mechanism of action of barbiturates in depressing brain metabolism formed the basis of much of the later work done in this area. More recently, Dr. Quastel has been working with intermediate carbohydrate metabolism, certain aspects of protein synthesis, and the relation between proteins and fats.

A national survey of the attitudes of newspaper and magazine readers toward science and science news, sponsored by the U.S. National Association of Science Writers, will be financed by a 70,000 dollars grant from the Rockefeller Foundation. Available over an 18-month period, the grant will make possible a 2,000-person poll to be conducted by the Survey Research Centre of the University of Michigan. The grant will be administered by New York University.

An interdisciplinary research project on the relationship of cultural patterns and personality, at the Nagoya University, Japan, will be financed in part by a 60,000-dollar grant, available over a three-year period, from the Rockefeller Foundation. Prof. Tsuneo Muramatsu, professor of neuropsychiatry at Nagoya Medical School, will direct the study.

A research and training programme in Middle Eastern economic and cultural geography will be

established by the University of Durham, to enable a group of scholars to study in the Middle East. In support of the project during a five-year period, the Rockefeller Foundation has appropriated £16,925 to provide a series of postdoctoral and junior fellowships. Prof. W. B. Fisher, head of the Department of Geography, will direct the programme.

The University of Cambridge will inaugurate a research programme in experimental animal psychology with partial aid from a Rockefeller Foundation grant of £15,000, available during the next five years. The new programme will be developed as the primary research interest in the Department of Experimental Psychology under the direction of Prof. Oliver Zangwill.

A new method of analysing changes in the birth-rate, the cohort system, will be used for assessing the main factors influencing population growth in the United States by the Scripps Foundation for Research in Population Problems at Miami University, Oxford, Ohio. Dr. P. K. Whelpton, director, will conduct a two-year study with Rockefeller Foundation support of 40,000 dollars. The cohort system uses groups, or 'cohorts', of women born in the same year and follows their child-bearing experience during the course of their reproductive life. Analyses based upon the cohort tables together with other data will be used by the Scripps Foundation group to prepare new and more accurate estimates of future population growth in the United States.

The deterioration of stored grain, a food problem of world-wide importance, and the basic chemical changes occurring in seed under varying storage conditions, will be studied by a group at the Kansas State College led by Dr. Max Milner, a distinguished cereal chemist. The three-year project will be financed by a 36,000-dollar grant.

Research equipment for a new laboratory of biochemistry at the University of Ferrara, Italy, will be provided over the next three years by a grant of 40,000 dollars from the Rockefeller Foundation. The new laboratory is under the direction of Prof. Enzo Boeri.

The School of Medicine of the University of Wisconsin will institute a research programme in medical genetics with partial support from a three-year, 25,000-dollar grant from the Rockefeller Foundation. Dr. Newton Morton, formerly a member of the Atomic Bomb Casualty Commission in Japan, will direct the programme.

Among other awards are: a total of 950,000 dollars to three Indian medical schools; a total of 365,000 dollars to three Brazilian medical schools; a grant of 290,000 dollars to a Japanese medical school; a grant of 250,000 dollars in support of the programme in international student exchange of the Institute of International Education, New York; a grant of 111,600 dollars to the American Library Association for the maintenance of an overseas library planning and development office.

Other grants have been awarded to institutes and individuals in the United States, Canada, Latin American countries, most European countries, Iraq, India, Pakistan, Thailand, Australia, Japan and the Philippines.

One hundred and thirty-one fellowships were awarded by the Foundation during the second quarter of 1956. These were distributed as follows: agriculture, 31; biological and medical research, 17; humanities, 31; medical education and public health, 41; social sciences, 11.