

# The Month at Caltech

## *Sloan Foundation Grant*

A new phase of growth at the Institute is heralded this month with the announcement by President L. A. DuBridge of a gift of \$5,000,000 from the Alfred P. Sloan Foundation of New York.

To be known as The Alfred P. Sloan Fund for Research in the Physical Sciences, the grant will be devoted over a period of years to what Mr. Sloan, former head of General Motors, describes as "the pursuit of knowledge for knowledge's sake."

While intended primarily for research in the physical sciences, including mathematics and engineering, the fund may also be applied where basic development in the physical sciences impinges on others, such as the life sciences.

In acknowledging the grant, Dr. DuBridge said: "This is not only one of the largest single contributions ever made to Caltech, it is also one of the most significant, for it comes precisely at a time when we are shaping up plans for an expansion of our activities that will entail the raising of many millions of dollars during the coming few years. It is thus a source of great encouragement to us to have this generous initial gift, and we trust it will inspire others to provide the additional support we will require."

Dr. DuBridge noted that this is Caltech's second large gift from the Sloan Foundation, the first having been \$1,166,000 donated in 1958 for the construction of the Sloan Laboratory of Mathematics and Physics. Numerous other gifts for research and scholarships have also come from the Foundation.

The latest grant was accompanied by a statement from Mr. Sloan:

"It has long been my conviction that if this nation is to keep ahead in the competitive race for survival there must be not only greatly increased funds for basic research, but also competent and imaginative management of such funds. With this grant, the Foundation is seeking to help the California In-

stitute of Technology further strengthen its already considerable efforts to advance American scientific knowledge and train young scientists. It is my hope that this Fund will stimulate other private sources to make support available for these purposes, at Caltech and elsewhere."

Dr. DuBridge said that developments in science and engineering have accelerated so greatly in recent years that they are now no less than "explosive."

He cited a number of areas in which he believes Caltech is especially qualified to provide leadership, including optical and radio astronomy, nuclear physics, molecular biology, genetics, geochemistry and geophysics, and chemical physics. Also aeronautics and space science, applied mathematics, materials science and engineering, and computer technology.

"In looking forward for the next ten years," he said, "it is clear that these are the fields in which we must expand our programs and initiate new ones."

"This, then, is the spirit that prevails at Caltech today — a spirit of rapid growth, of adventure, and of optimism. We are confident that the Institute is entering upon what will be a hugely productive era, and we are particularly grateful for the timely vote of confidence we have received from the Sloan Foundation."

## *National Academy of Sciences*

Robert F. Christy, professor of theoretical physics at Caltech, was elected a member of the National Academy of Sciences at its annual meeting in Washington, D.C., last month. Election to the Academy, one of the highest scientific honors in the nation, is in recognition of outstanding achievement in scientific research. With 32 members, Caltech has the highest percentage of members of any university faculty.

Dr. Christy has made important theoretical con-

tributions in nuclear, high energy, and cosmic ray physics, and in astrophysics. He has made extensive studies of the reactions, energy levels, and structure of the light atomic nuclei in Caltech's Kellogg Radiation Laboratory. His work in theoretical physics, throughout his career, has always been closely associated with parallel work of experimentalists in the laboratory.

During World War II Dr. Christy was a member of the University of Chicago group that developed the first atomic pile, and of the team at Los Alamos, New Mexico, that produced the first atomic bomb. His contributions to the theory of neutron diffusion and nuclear reactors were significant, and the first atomic weapons incorporated features suggested by him.

Recently Dr. Christy has extended his studies to astrophysical problems, and has made substantial contributions to the nonlinear theory of stellar pulsations. His theoretical results are the first to show correspondence with the details of the light variations of pulsating stars.

Dr. Christy came to Caltech in 1946 from the University of Chicago. He also had taught at the Illinois Institute of Technology in Chicago (1941-42), the University of California at Berkeley (1937-40), and the University of British Columbia in Vancouver, Canada (1935-37). He received his BA and MA degrees from the University of British Columbia, and his PhD from the University of California.



*Robert F. Christy, NAS member*

### *Molecular Biology Award*

Robert S. Edgar, associate professor of biology at Caltech, has received the fourth annual United States Steel Foundation Award in Molecular Biology, administered by the National Academy of Sciences, in recognition of his development and application of the method of "conditional lethal mutants" to determine how genes control the development of a virus.

The development of the method of conditional lethal mutants for studies of viral genetics had its roots in earlier discoveries that mutant genes are both sensitive to temperature, and dependent in their behavior on the host material.

In 1960 Dr. Edgar and Richard H. Epstein, then a research fellow in biology at Caltech, formulated the principle that mutations of a virus which prevent its growth under one set of conditions (high temperature or restricting host) but not under another (low temperature or permissive host) should occur in almost every gene whose product is a protein. From this principle they reasoned that mutations could be used to identify, by function, the individual genes in a virus, by determining the step in viral development that is blocked in a mutant under the growth-preventing conditions.

Dr. Edgar, in collaboration with Dr. Epstein and other scientists at Caltech and at the Laboratory of Biophysics of the University of Geneva, has played a leading role in developing this work, which has produced some of the most important advances in physiological and molecular genetics.

### *Carty Medal*

Alfred H. Sturtevant, Thomas Hunt Morgan Professor of Biology, emeritus, was awarded the Carty Medal of the National Academy of Sciences at the 102nd annual meeting of the Academy in Washington, D.C., last month, "for noteworthy and distinguished accomplishment."

A major contributor to modern genetic theory through his analysis of hereditary patterns in the common fruit fly, Dr. Sturtevant was the first to map the locations on chromosomes of the genes associated with particular inherited characteristics, and to demonstrate the simple linear ordering of genes on chromosomes. His discoveries have led to better understanding of heredity and evolution, and they occupy a prominent position in modern genetics textbooks.

A member of the National Academy of Sciences, Dr. Sturtevant received its Kimber Genetics Award in 1957 "for his distinguished career as discoverer

and interpreter of fundamental genetic phenomena.”

Dr. Sturtevant came to Caltech in 1928. He became professor emeritus in 1962.

### *William Bowie Medal*

Hugo Benioff, Caltech professor of seismology, emeritus, received the highest award of the American Geophysical Union — the William Bowie Medal — in Washington, D.C., on April 20, at a special ceremony at the National Academy of Sciences.

Dr. Benioff is the designer of the Benioff seismograph, used throughout the world in earthquake study. He has also developed sensitive microbarographs, magnetovariographs, underwater sound transducers, oscillographs and galvanometers, and was the first to suggest that the acceleration spectrum was the important constant in antiseismic design.

Dr. Benioff joined Caltech's Seismological Laboratory in 1924, received his PhD degree in geology at the Institute in 1935, and joined the faculty in 1937. He became professor emeritus in 1964.

### *AAAS Members*

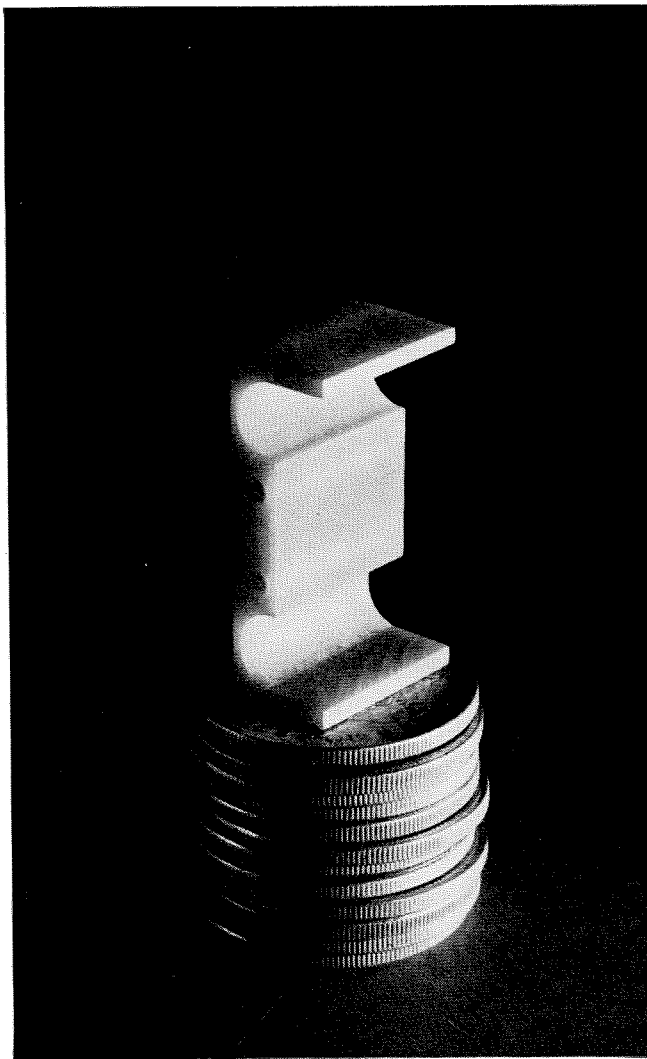
Three Caltech professors have been elected to membership in the American Academy of Arts and Sciences: William A. Fowler, professor of physics, for his contributions in the fields of astronomy and the earth sciences; George S. Hammond, Arthur Amos Noyes Professor of Chemistry, for his outstanding work in chemistry; Robert L. Sinsheimer, professor of biophysics, for contributions to the biological sciences.

### *Industrial Associates Director*

Richard P. Schuster, Jr., associate director of development at Caltech, has been appointed executive director of the Institute's Industrial Associates. He succeeds Emory L. Ellis, who will become a consultant for The RAND Corporation.

The Caltech Industrial Associates is a group of research-oriented corporations which help support the Institute's teaching and research programs through substantial annual contributions and which benefit through Caltech seminars and faculty visits.

Schuster received a BS in electrical engineering in 1946 and one in applied chemistry in 1949 from Caltech. Before joining the Caltech development office this year he worked at JPL with the Arms Control Study Group, and as special assistant to the director in a study of cost reduction.



## **Quality doesn't cost; it pays**

Everything has two prices; the price you pay to buy it and the price you pay to live with it. You may have to pay a little more for quality at first because there are no bargains in good materials and good workmanship. This is as true of laminated plastics as it is of diamonds.

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