

The Month at Caltech

African Project

Caltech launches its first research project in the field of the social sciences next month when six Caltech professors leave for southern Africa for a three-month study of the area lying south of the Congo and Tanganyika. This is the first step in a three-year research project on the process of economic development in southern Africa.

Edwin S. Munger, professor of geography who has spent most of the past 16 years in Africa, and Robert W. Oliver, associate professor of economics, are co-chairmen of the project. Accompanying them to Africa this summer are Frederick C. Lindvall, chairman of the division of engineering; Horace N. Gilbert, professor of business economics; Robert Sigafos, senior research fellow in economics; and Robert Huttenback, assistant professor of history.

Southern Africa was chosen for this project because it represents an excellent laboratory for a broad look at varied economic problems. The nations in this area range in educational development from Mozambique, without a single university and no real industry, to the Republic of South Africa, with several excellent universities and an advanced industrial technology.

Southern Africa covers an area nearly equal to that of the United States, and has a population of 35,000,000. It is probably the richest part of the world in minerals and has a tremendous range of cultures from traditional tribal barter economies to highly complex societies.

Even though the area's steel mills sell to Texas, and its power, agricultural exports and entrepreneurial skills overshadow the rest of Africa, there has been little study on southern Africa as a unit.

Once the groundwork has been done on this study by the six-man research team this summer, it is highly possible that Caltech scientists and engineers also will find it possible to contribute to the research effort in such areas as the nutrition problems of people living in the more undeveloped areas, in water resources, and in building construction.

Lawrence Award

Richard P. Feynman, Richard Chace Tolman Professor of Theoretical Physics, has been awarded the Ernest Orlando Lawrence Memorial Award by the Atomic Energy Commission for significant contribu-

tions to nuclear science. He is best known for his work on quantum electrodynamics and his currently developing quantum theory of gravitation. The award, consisting of a medal and a grant of \$5,000, was specifically given to Dr. Feynman for his contribution toward the understanding of the behavior of sub-nuclear particles.

ACS Awards

Laszlo Zechmeister, professor of organic chemistry, emeritus, and Harden McConnell, professor of chemistry, received high awards from the American Chemical Society at its 141st national meeting in Washington, D.C., this spring.

Dr. Zechmeister received the ACS Award in Chromatography and Electrophoresis. Dr. Zechmeister was one of the early developers of these separation techniques which are used to purify complicated materials of natural origin.

Dr. McConnell received the ACS Award in Pure Chemistry which is given annually "to recognize and encourage fundamental research in pure chemistry carried out by young men and women." The recipient must not have passed his 36th birthday. Dr. McConnell specializes in the electronic structure of molecules and solids.

National Academy

William H. Pickering, director of Caltech's Jet Propulsion Laboratory, was elected a member of the National Academy of Sciences this month. Election to the Academy, one of the highest scientific honors in the nation, is in recognition of outstanding achievement in scientific research, and membership is limited to 500 American citizens and 50 foreign associates. There are now 37 Caltech staff members in the Academy.

Dr. Pickering, a native of New Zealand, received his BS from Caltech in 1932, his MS in 1933, and his PhD in 1936. He has been a member of the teaching staff at Caltech since that time, and is currently professor of electrical engineering on leave of absence.

From 1935 to 1942 Dr. Pickering conducted research work in cosmic ray physics and instrumentation with the late Robert Millikan and H. V. Neher, professor of physics. During World War II he served on the Scientific Advisory Board of the U.S. Air Force. He joined the Jet Propulsion Laboratory staff in

1944 as a section chief, and in 1951 was appointed chief of the guided missile electronics division. He was directly responsible for the development of the Corporal, the first U.S. operational guided missile, and for the FM-FM telemetry system now used on all military rockets and space vehicles. He also developed the first radio command guidance system for ballistic missiles.

Dr. Pickering became director of JPL in 1954. Under his leadership the Laboratory produced the Corporal; its second-generation successor, the Sergeant; the first successful U.S. earth satellite, Explorer I, and others in the Explorer series; Pioneer IV, the first successful U.S. space probe; and the Microlock communications system.

Mathematics Honors

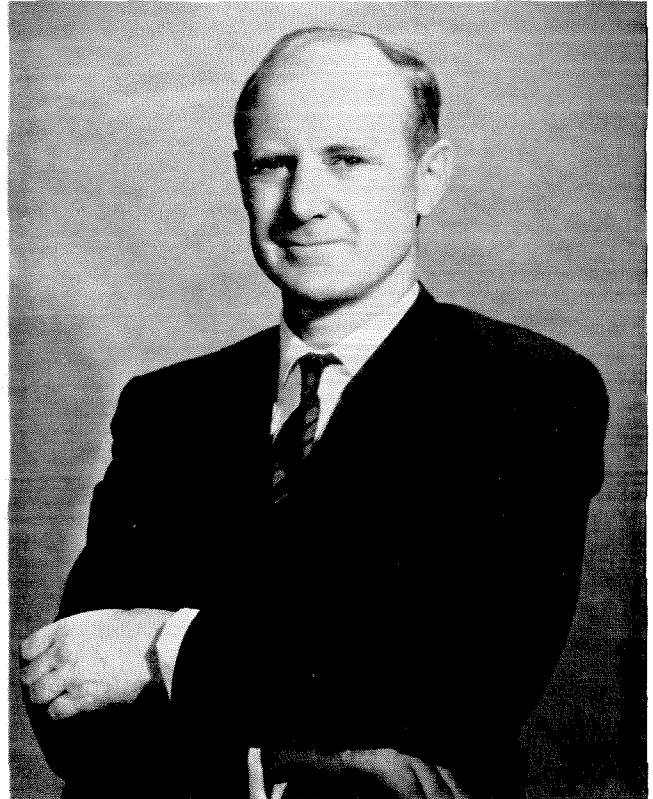
A Caltech undergraduate team won third place in the 22nd annual William Power Putnam Mathematical Competition last month, and three Caltech undergraduates took three of the top 10 individual honors in the competition. Richard Emerson, a senior, and two juniors, John H. Lindsey and Roger C. Hill, made up the Caltech team. Emerson, Lindsey, and Edward Bender, a junior, ranked in the top ten individually. Over a thousand contestants from colleges and universities in the U.S. and Canada attended the competition which is sponsored by the Mathematical Association of America.

Sorensen Switch

An electric switch invented 39 years ago at Caltech by Royal Sorensen, emeritus professor of electrical engineering, and the late Robert A. Millikan, has just received two major honors. The device, modified and improved, has finally been put into test operation by electrical utility companies, and the original model has been accepted for permanent display at the Smithsonian Institution in Washington, D.C. The switch in its modern version represents a breakthrough in electrical engineering that is expected to provide a much simpler, smaller, and more effective circuit breaker for electrical distribution systems.

White House Dinner

Three Caltech Nobel laureates and President L. A. DuBridge were guests at the White House on April 29 at a dinner honoring the 61 living Nobel prize-winners of the Western Hemisphere. The Caltech men among the 173 guests who attended the function were Carl Anderson, who won his prize in 1936 for the discovery of the positron; Linus Pauling, who received the prize in 1954 for his research into the nature of the chemical bond and its application to the elucidation of the structure of complex substances; and Rudolph L. Mössbauer, honored last fall for his



William H. Pickering

discovery of the radiation effect that bears his name.

The event was the first of its kind to ever be held at the White House, and is part of the President's program of encouraging achievement in cultural and scientific fields by recognizing those who have made important contributions.

Honors and Awards

Harrison Brown, professor of geochemistry, and Frederick C. Lindvall, chairman of the division of engineering, have been named by the White House to a 12-man committee to select recipients of the new National Medal of Science. As many as four medals may be awarded in any one year for outstanding contributions in the physical, biological, mathematical, and engineering sciences.

Ivan F. Betts, contract administrator at the Institute, has been appointed assistant to the vice president for business affairs. In his new position he will handle special assignments, including the study of Caltech's business organization and procedures. Frederick W. Hess, contract administrator at JPL, has been transferred to the campus to take Mr. Betts' place as contract administrator.

Herbert A. Gibson, Caltech wage and salary supervisor for the past 6½ years, has been appointed assistant personnel director of the Institute. He is a graduate of Fairmont State College in West Virginia, and took graduate work in industrial management at USC.