

Architect's drawing of the new Alfred P. Sloan Laboratory of Mathematics and Physics.

The Month at Caltech

Sloan Laboratory

A new mathematics and physics building on the campus has now been assured by a grant of \$1,165,700 from the Alfred P. Sloan Foundation of New York. The gift brings total contributions to Caltech's \$16,100,000 Development Program to more than \$7,000,000. Seven of the 15 new buildings in the program are now assured by specific gifts.

The Sloan gift will be used to finance construction of the new mathematics and physics facilities within the building which for many years has housed Caltech's high voltage laboratory. This will become a modern five-story structure (two stories below ground) with nearly 50,000 square feet of floor space, and will be renamed the Alfred P. Sloan Laboratory of Mathematics and Physics.

The three upper floors of the building will contain offices for faculty members and graduate students in mathematics, as well as conference and seminar rooms, a lecture hall and a library.

The lower floors will be devoted to facilities for two experimental physics programs. To expand its research on the nuclear reactions of light elements,

Caltech will install in this space a new 10-million-volt Van de Graaff accelerator, which is being supplied by the Office of Naval Research at a cost of \$1,000,000.

New facilities will also be provided for research in the field of cryogenics, or low-temperature physics. Caltech has made important contributions to the study of the behavior of liquid helium at temperatures within a few thousandths of a degree of absolute zero. It is now expanding this work to embrace studies of the low-temperature phenomenon known as super-conductivity, in which the resistance of certain materials to electrical current disappears.

The Next Hundred Years

Caltech launched a 13-week television series this month, designed to give audiences a look at some of its research and teaching activities.

The weekly series, entitled "The Next Hundred Years," features Caltech scientists demonstrating and describing their current investigations. The programs are being presented as a public service by KRCA-Channel 4 and the National Broadcasting Company. They are shown in the southern California area on

Channel 4, Saturday evenings at 6 p.m.

The first program, on November 1, with an introduction to the series by President DuBridge, featured Harrison Brown, professor of geochemistry (whose book, *The Next Hundred Years*, written in collaboration with James Bonner and John Weir, gives the title to the television project). In "The Story of the Irish Potato" Dr. Brown described the situation in Ireland in the last century as being analogous to that of the present day, when our civilization is almost completely dependent on science and technology.

Ray Owen, professor of biology, appeared on the November 8 program, "Facts for a Friendly Frankenstein," in which he discussed skin grafting and tissue transplanation, with particular attention to the life-saving effects of bone marrow transplant after exposure to high dosages of radiation.

In "Geological Russian Roulette," scheduled for November 15, Richard Jahns, professor of geology, will tell some of the problems and pitfalls of building and maintaining residence in southern California, keeping in mind the general history of geologic processes such as erosion, faulting and disposition of sediments.

On November 22, Kent Clark, associate professor of English, author of the new historical novel *The King's Agent* — and the only non-scientist to take part in this series — will present "They'll Remember Grandma." In this program he will look at the year 1958 through the eyes of a historian of 2058.

William Fowler, professor of physics, is scheduled to talk on "In the Beginning Was Hydrogen" on the November 29 program — a discussion of the creation of the elements in stars.

Faculty on Tour

Robert F. Bacher, chairman of the division of physics, mathematics and astronomy, left last month for Geneva, Switzerland, for the resumption of inter-

national talks on banning nuclear tests.

Dr. Bacher, a member of President Eisenhower's Science Advisory Committee and a former member of the Atomic Energy Commission, is serving as science adviser to Ambassador James J. Wadsworth, deputy UN representative who heads the United States delegation.

Dr. Bacher was a member of the international group of scientists that met in Geneva last summer to work out technical problems involving an international inspection program so that a nuclear test ban could be enforced.

Frederick C. Lindvall, chairman of the engineering division, heads a group of eight educators now touring Russia to study the quality of engineering instruction there.

The one-month inspection trip is a project of the American Society for Engineering Education. It was originally suggested by the Soviet Union, and the plan calls for Russian engineering educators to tour schools in this country, too.

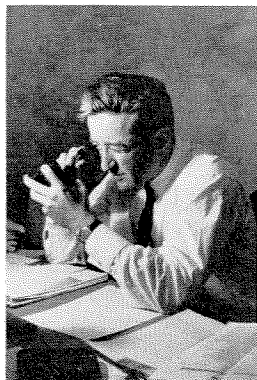
Donald E. Hudson, professor of mechanical engineering, is on leave of absence for six months to help develop a program of postgraduate studies at the University of Roorkee in India.

Dr. Hudson is making the trip under the sponsorship of the Technical Cooperation Mission to India, a program of the U.S. Department of State. The purpose of the project is to help raise the level of India's engineering and technology.

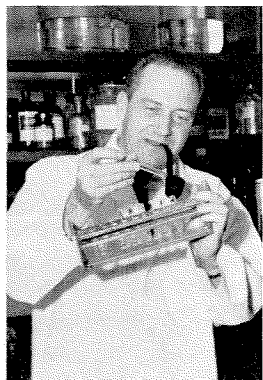
Roorkee University, about 100 miles north of New Delhi, is the oldest engineering school in Asia and was founded 100 years ago. The university is setting up a program of postgraduate studies as part of India's second five-year plan.

Dr. Hudson was invited to direct the installation of postgraduate laboratories and classes in mechanical

They Lead Off "The Next Hundred Years"



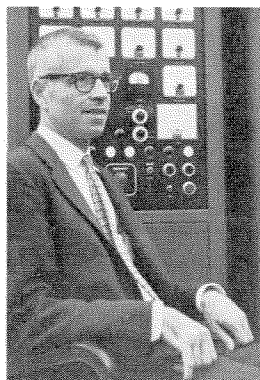
Brown: *The Story of the Irish Potato*



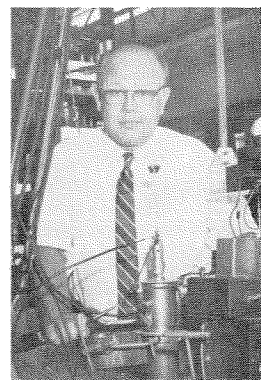
Owen: *Facts for a Frankenstein*



Jahns: *Geological Russian Roulette*



Clark: *They'll Remember Grandma*



Fowler: *In the Beginning, Hydrogen*

engineering a year ago when A. N. Khosla, president of Roorkee University, visited the United States and selected Caltech's engineering division as a model.

Space Program

Dr. Homer J. Stewart, Caltech professor of aeronautics and chief of the liquid propulsion systems division of the Jet Propulsion Laboratory, has been appointed director of the Office of Program Planning and Evaluation of the National Aeronautics and Space Administration. Dr. Stewart will be directly responsible to the NASA administrator, T. Keith Glennan.

Working with a small group of specialists in the areas of science and technology most closely associated with space problems, Dr. Stewart will be primarily responsible for planning programs in space technology and exploration. This work will be carried on in close consultation with the Department of Defense to produce a comprehensive, national space program.

Dr. Stewart is one of the pioneers in American rocketry; in 1939 he was a member of the small group of Caltech engineers and scientists who developed Jato and became the nucleus of the Jet Propulsion Laboratory. A native of Michigan, he received his BS in aeronautical engineering at the University of Minnesota in 1936, and his PhD in aeronautics at Caltech in 1940.

For some years, Dr. Stewart served as chief of the research analysis section of JPL, and in that capacity participated in many pioneering rocket projects, including the Wac Corporal, Corporal, Bumper, Sergeant and Jupiter C. As chief of the liquid propulsion



Homer J. Stewart, new director of the NASA Office of Program Planning and Evaluation.



Abraham H. Maslow, psychologist, and first visitor on this year's Leaders of America program.

systems division, he participated prominently in the joint effort of JPL and the Army Ballistic Missile Agency in developing and launching the first American earth satellite, Explorer I and subsequent Explorers.

Leaders of America

Dr. Abraham H. Maslow, professor of psychology and chairman of the graduate committee in psychology at Brandeis University in Waltham, Mass., comes to the campus December 3-5 as the first visitor in this year's Leaders of America program, sponsored by the Caltech YMCA.

A distinguished lecturer, Dr. Maslow is also the author of *Motivation and Personality*, and co-author of *Principles of Abnormal Psychology*.

James B. Conant, second guest on the Leaders of America program, will be on campus from January 12-15. Former president of Harvard University (1933-1953) and U.S. High Commissioner for Germany (1953-1955), Dr. Conant is now engaged in a study to improve American high schools.

Will Herberg, the last of the year's Leaders of America, will be here from April 20-22. Graduate professor of Judaic studies and social philosophy at Drew University, he is currently on the staff of the Washington School of Psychiatry. He is known for his work in two fields — social research and theology. For many years he served as research analyst for a large AFL labor union. More recently, his major concern has been technology and social philosophy.