

The Month at Caltech

National Academy of Engineering

George W. Housner, professor of civil engineering and applied mechanics at Caltech, has been elected to membership in the newly-formed National Academy of Engineering. One of 17 distinguished engineers to be so honored, he will attend the Academy's first annual meeting April 27 to 29 in Washington D.C.

Three other Caltech men are among the original 25 founding members of the Academy: Clark Millikan, professor of aeronautics and director of the Graduate Aeronautical Laboratories; William H. Pickering, director of JPL; and Simon Ramo, who is a member of the board of trustees, and a research associate in electrical engineering at Caltech.

The National Academy of Engineering was established in December 1964, under the charter of the 100-year-old National Academy of Sciences. It operates autonomously, but in cooperation with the NAS. Members are selected on the basis of their contributions to engineering theory and for their achievements in engineering. They share with the NAS the responsibility of advising the federal government, upon request, in all areas of science and engineering.

Humanities Option

Beginning next fall, and for the first time in its 74 years, Caltech will offer undergraduates a Bachelor's degree in the humanities. Students will be able to major in English, history, or economics.

"Our aim," says President DuBridge, "is no less than that of developing a new kind of graduate — one devoted to the humanities but excellently grounded in science and engineering. Such a man should bring to any career he pursues — teaching, literary, or business — a breadth of view that is sorely needed in these times."

While the great majority of Caltech students will continue to specialize in science and engineering, there is a small group whose interests will lead them to take advantage of the new program. It consists of students who, after one or two years at the Institute, decide to change their majors from science or engineering to the humanities. Formerly, this entailed transferring to another college or university. The group, it is hoped, will also include a number of students who intend from the outset to major in the humanities, but who also want considerable ex-

posure to science and engineering.

"It is worth noting," says Hallett D. Smith, chairman of Caltech's humanities division, "that in past years a fair number of our students have followed a program much like the one we are now formalizing — without, of course, receiving the degree we now offer. We have had no trouble placing them in the best graduate schools and anticipate no trouble in placing our new humanities majors. On the contrary, we expect that there will be a lively demand for them."

Dr. DuBridge points out that the new policy is a logical outgrowth of Caltech's traditional respect for the liberal arts, as reflected in its curriculum:

"From the beginning, we have required all of our undergraduates to spend at least one-quarter of their time in the humanities. Most of them are intensely interested in these subjects and do very well in them. It is not surprising that some of them choose to seek careers in related fields. Now they will be able to do this and still get their degrees at Caltech — a desirable thing from our standpoint as well as from theirs."

Honors and Awards

Richard P. Feynman, Richard Chace Tolman Professor of Theoretical Physics at Caltech, has been elected a fellow of the Royal Society of London, Britain's top scientific body, for his contribution to quantum field theory and the theory of liquid helium.

Dr. Feynman becomes a foreign member of the Royal Society. Only four such members are chosen annually. Also honored this year is Theodosius Dobzhansky, professor of population genetics at the Rockefeller Institute in New York, and onetime assistant professor of genetics at Caltech.

Arie J. Haagen-Smit, professor of bio-organic chemistry at Caltech, received the 1964 Richard Chace Tolman Medal from the Southern California Section of the American Chemical Society at an awards banquet in Los Angeles on April 7. Dr. Haagen-Smit was honored for his work in plant physiology and air pollutants; for his long interest in teaching; for loyal service to the United States government; and "for exemplifying the academic man by the integration of his talents for teaching, research, and administration."

Robert J. Parks, '44, has been appointed manager

of the Jet Propulsion Laboratory's Surveyor Project of soft moon landings, the Laboratory's highest priority flight project. Parks has been assistant director for Lunar and Planetary Projects. The first of Surveyor's seven planned launches is scheduled for next fall.

H. M. Schurmeier, Ranger Project Manager for Caltech's Jet Propulsion Laboratory, received the National Aeronautics and Space Administration's Exceptional Scientific Achievement Medal from President Johnson, in a White House ceremony on March 26. Before pinning the medal on Schurmeier, the President described the close-up lunar photos taken by the Rangers as the most dramatic advance in our knowledge of the moon. At the ceremony, Schurmeier shared honors with astronauts Virgil Grissom and John Young.

Frank Press Appointment

Frank Press, director of Caltech's Seismological Laboratory, and professor of geophysics, has been appointed head of the department of geology and geophysics at the Massachusetts Institute of Technology, effective September 1.

Dr. Press came to Caltech as professor of geophysics in 1955 from Columbia University, where he was associate professor of geophysics. He has been prominent in the study of the structure and internal motion of the earth through the detection, measurement, and analysis of shock waves, and is chairman of a special panel, set up by President Johnson, to study the possibility of predicting earthquakes.

Visiting Lecturer

C. H. G. Oldham, British geophysicist and a fellow of the Institute of Current World Affairs, spent two weeks on the Caltech campus this month as a visiting lecturer, under the auspices of the humanities division. Dr. Oldham, who has lived in Hong Kong for the past four years, and spent a month in Red China at the end of last year, spoke to student and faculty groups about science and the scientist in Asia, particularly in China.

In 1960 Dr. Oldham accepted a fellowship with the Institute to study Chinese science. He spent a year at the University of London studying the Chinese language before moving to Hong Kong, where he became interested in the broader field of science and technology for underdeveloped countries.

A New Text for Courses in Electrical Engineering

INTRODUCTORY NETWORK THEORY

Amar G. Bose and Kenneth N. Stevens
Massachusetts Institute of Technology

Designed to enable the student to approach future problems logically, this text emphasizes the value of fundamentals over an inventory of solutions to problems.

The instructor is expected to develop the basic concepts discussed in the text and to supply motivations by relating concepts to applications. The homework problems not only help the student to apply concepts but lead him to develop others that are purposely omitted by the teacher and the text.

Mathematics is developed separately from network considerations, thus providing the student with the foundations for handling problems in many fields where linear analysis is appropriate without detracting from the basic development by the simultaneous introduction of the vocabulary and details peculiar to the numerous specific disciplines. Although the scope of the book

is limited to network theory, its development of topics will lay the foundations for a course in signals and linear systems that should follow (e.g., the representation of signals as sums of exponentials, which paves the way for transforms). Initial attention is on Kirchhoff's Laws and the voltage-current relations of the elements. Network topology is introduced after the student has sufficient familiarity with simple network solutions and is motivated to consider the more general case. Tellegen's theorem is developed and used as a basic result for providing network theorems and for deriving energy and power relations, thus eliminating the need for elaborate arrays of equations and the use of determinants in proving such relations as reciprocity. **Coming in June.**

A Teacher's Guide, by Ralph Alter and Alan Oppenheim, contains problem solutions, discussions of the problems where necessary, and prefaces to the text chapters.

Harper & Row, Publishers • 49 E. 33d St., New York 10016