

The Month at Caltech

Visiting Scholars

For the last 18 years the Phi Beta Kappa Visiting Scholar Program has sent off ten distinguished scholars a year to visit universities and colleges that have Phi Beta Kappa chapters. Caltech, which does not have a chapter, cannot be on the receiving end of any of these calls, but many Institute faculty members have served as visitors; the two latest are Ray Owen and Eugene Shoemaker, who will be on tour in 1974-75.

Each Visiting Scholar goes to eight campuses over a period of four weeks (not necessarily consecutively) and gives three to six talks, one of which is a public lecture. Most of the time on each campus, however, is spent in meeting informally with faculty and students. Schools outside large urban areas are given priority in scheduling.

Almost all the academic disciplines have had spokesmen on the program over the years. Caltech has been represented by Hallett Smith, professor of English; Wheeler North, professor of environmental science; computational linguist Frederick B. Thompson, professor of applied science and philosophy; and two trustees—the late Henry Dreyfuss, industrial designer; and George Beadle, former professor of biology at Caltech and Nobel prizewinner, and his writer wife, Muriel, who filled a joint appointment.

A current Phi Beta Kappa scholar is Harry B. Gray, professor of chemistry. In October he visited St. Louis University, the University of Missouri, Centre College of Kentucky, and the University of New Mexico. He found the experience “enjoyable, interesting, and exhausting—but you do get to know people.”

Ray Owen and Gene Shoemaker are the only two scientists on the 1974-75

panel. Owen, professor of biology, will probably give talks on death and disease; science, politics, and money in the national cancer program (Owen was appointed in 1973 to the President's Cancer Panel); progress toward the conquest of cancer; and a viewpoint from immunogenetics of the causes and cures for cancer. Shoemaker, professor of geology, proposes to talk on the canyons of the Colorado and the consequences of catastrophe—the geological processes that shaped the earth; and on planetesimal accretion—a detailed look at some processes by which the earth was born.

Braun Professorship

George W. Housner, professor of civil engineering and applied mechanics, has now been named Carl F Braun Professor of Engineering. He is the first occupant of this new professorial chair.



A regular visitor to the Baxter Hall fish pond, and the man who keeps the carp supplied with Saltines, is Caltech's new Carl F Braun Professor of Engineering—George Housner.

The endowed chair is made possible by gifts from the Braun family through the Carl F Braun Trust Estate and C F Braun & Co.

Housner received his MS and PhD in civil engineering at Caltech, and has been a member of the Caltech faculty since 1945. Internationally known as an expert on the effects of earthquakes on structures, he has been a leading figure in the design of buildings to resist earthquakes, and in the development of instruments and techniques for measuring the impact of earthquakes on structures.

Housner is chairman of the National Academy of Engineering Committee on Natural Disasters and also of the Earthquake Advisory Board of the California Department of Water Resources. He is a member of the California Governor's Earthquake Council and of the Los Angeles County Earthquake Investigation Commission.

He is a member of both the National Academy of Sciences and the National Academy of Engineering.

The new professorship is named for the late Carl F Braun, founder-president of C F Braun & Co, an engineering and design firm with headquarters in Alhambra. Mr. Braun was a trustee of Caltech and a charter member of the California Institute Associates. He was a director of the Associates from 1937 until his death in 1954. One of his three sons, John G Braun, is now a trustee of Caltech.

The Carl F Braun Trust Estate, established in 1955 to help educational and other organizations in California, and the Braun Company have made a number of contributions to Caltech, including the graduate residence hall, Braun House, and the rehabilitation of Kerckhoff Marine Laboratory at Corona del Mar.

Bombshell

Alfred Hitchcock, the film director, interviewed for *The New York Times* recently by Deirdre Carmody, related an indelible encounter with Caltech's Robert Millikan.

During World War II, Mr. Hitchcock directed *Notorious* with Ingrid Bergman, Cary Grant, and Claude Rains. There is a famous scene in a wine cellar where a valuable substance has been placed in the wine bottles by the Germans. Mr. Hitchcock thought the substance should be Uranium-235, so he and Ben Hecht, who wrote the screenplay, went to consult physicist Millikan.

"We went into his study, and there was this bust of Einstein, and we said to him 'How big would an atom bomb be?'" Mr. Hitchcock recalled.

The year was 1944, when scientists were working in great secrecy to perfect the atomic bomb, but Millikan maintained his composure and emphatically told the two men that such a bomb could not possibly be constructed.

Mr. Hitchcock said that he was followed by government agents for the next three months.

Science Fiction Festival

Under the aegis of John R. Pierce, professor of engineering and an old hand at science fiction himself, Caltech held its first Science Fiction Festival on March 7 and 8.

Ushered in by a four-week series of classic films (*The Time Machine*, *Forbidden Planet*, *Planet of the Apes*, the two original pilots of the television "Star Trek" series, and two fragrant episodes from the Flash Gordon movie serial), the festival proper opened with a concert in Ramo Auditorium on March 7 by pianist Leo Smit, with verbal embellishments by Sir Fred Hoyle, astronomer, science fiction writer, and visiting associate in physics at Caltech. Smit's program, except for an original composition, was made up of selections mentioned or utilized in



Science meets science fiction—three Feynmans (Gwyneth, Richard, and Carl—who is the only full-fledged science fiction buff

in the family) welcome writer Jerry Pournelle to Caltech's first Science Fiction Festival.

the plot of Hoyle's latest book, *October the First Is Too Late*.

Following the concert, a reception in Winnett Lounge, cosponsored by ASCIT and the Caltech Y, gave students and faculty their first opportunity to meet at least some of the science fiction writers scheduled to make a formal appearance on the following day.

Six popular science fiction writers were on hand for the Saturday symposium held in a very crowded Ramo Auditorium—Poul Anderson, Harry Harrison, Robert A. Heinlein, Larry Niven, Jerry Pournelle, and Robert Silverberg. The discussion started off on the announced topic—"The Relation Between Science and Science Fiction"—and the authors agreed that science fiction generally lagged behind scientific advances, so that new discoveries were constantly making their stories obsolete. (For

example, said Jerry Pournelle, the discovery of the very intense radiation belts around Jupiter had made the actions described in literally hundreds of stories impossible.)

The discussion quickly broadened out to include the eager audience and any number of new topics—the role of women in science fiction, the relationship between science fiction and "mainstream" literature, the concept of science fiction as a literary ghetto, and the question of the existence of "wormholes" leading to other universes. After dinner with faculty members in the Athenaeum, the writers came back to Ramo Auditorium for a Saturday night screening of "Lunch with John W. Campbell," a film about the late great editor of *Astounding* and *Analog*, and for more commentary and discussion before the festival finally broke up in an orgy of adulation and autographing.

The Month at Caltech . . . continued

Last Word?

Irwin Nathan, Systems Consultant for Xerox Corporation in Rochester, New York, forwards this final word on the recalcitrant Xerox machine reported on by James and Ingelore Bonner in the November-December issue of E&S—a memo to him from G. S. Planner, General Manager for Xerox in London:

You will recall the article in the Caltech magazine recording the trip made to the Soviet Union by the Bonners, and the critical comment that the Xerox machine was not working—"it breaks down and cannot be fixed because Xerox service men do not come."

As we know the user, our office in Moscow contacted them and were informed that the machine does work well, but they had had to make these comments to the visiting delegation from the States, as an explanation of why they could not make copies, which in fact is not allowed because of the censorship rules.

They have sent a letter to us, confirming that the machine was installed in 1972 and has worked correctly according to its specification—and they have no claim in respect of service or quality.

Hmmmm

Everyone in the Soviet Union wants a Beckman instrument—a scintillation counter, a spectrophotometer, a Spinco centrifuge.—*Engineering and Science.*

They're crazy about wheat, too.

FEBRUARY 18, 1974
THE NEW YORKER

Books

*Some recent ones by or about
Caltech people.*

ALMOST ALL ABOUT WAVES
by John R. Pierce
MIT Press \$8.95

It is characteristic of John Pierce that he includes an "almost" in his title. Anyone else would have claimed that this book was *all* about waves.

"Modern physics is full of waves," Pierce says at the start of the book, "the earthquake waves which seismologists study; the waves and ripples on oceans, lakes, and ponds; the waves of sound which travel through the air; the mechanical waves in stretched strings and in the quartz crystals that are used to control the frequency of radio transmitters; the electromagnetic waves that constitute light, and that are radiated by radio transmitters and received by radio receivers; and finally, the waves of what?—probability, perhaps—which are used in quantum mechanics to predict the behavior of electrons, atoms, and complex substances."

What Pierce does here is to show how much a physicist or engineer can learn about waves without using a great deal of mathematics.

John Pierce got his BS from Caltech in electrical engineering in 1933, his MS in 1934, and his PhD in 1936. After 35 years with the Bell Telephone Laboratories, he became professor of engineering at Caltech in 1971.

SEISMICITY OF THE SOUTHERN
CALIFORNIA REGION
by James A. Hileman, Clarence R.
Allen, and John M. Norquist
Seismological Laboratory. \$14.25

Caltech's Seismological Laboratory has been collecting data on southern

California earthquakes for the last 41 years. Now three members of the staff have published a book about 15,340 quakes.

Seismicity of the Southern California Region is a 494-page volume with listings of the earthquakes of magnitude 2 or more. Not an interpretive study of seismic hazard, the book simply presents a maximum amount of fundamental data—the latitude and longitude of the quakes, their location by quadrangle name, the time of their occurrence, their magnitudes and depths, and the accuracy with which they were located.

Clarence R. Allen, professor of geology and geophysics; John M. Norquist, senior research engineer; and James A. Hileman, graduate student in geophysics, are the co-authors. Hileman developed a way to use Caltech's computer to print out maps of the fault distributions, and portions of the book are from his PhD thesis.

The book will, of course, be used by geologists who are interested in seismicity; but it should also be extremely helpful to engineers who are trying to resolve problems like selecting suitable sites for nuclear power plants.

OPERATING SYSTEM PRINCIPLES
by Per Brinch Hansen
Prentice-Hall, Inc. \$13.50

The first book to offer in-depth coverage of the common principles of computer operating systems for students and professional programmers. Per Brinch Hansen has been an associate professor of computer science at Caltech since 1972.

THIN-SHELL STRUCTURES
Theory, Experiment, and Design
edited by Y. C. Fung and E. E. Sechler
Prentice-Hall, Inc. \$21.95

The edited proceedings of a symposium held at Caltech in June 1972, co-sponsored by the Institute, the Air Force, the Office of Scientific Research, and the U.S. Navy Office of Naval Research.

The editors are both Caltech alumni: Ernest Sechler, now professor of aero-