

## RETIRING THIS YEAR

### HENRY BORSOOK

*professor of biochemistry*

Henry Borsook, noted for his work in protein synthesis and for his contributions to the field of nutrition, becomes professor of biochemistry, emeritus, this month after nearly 40 years on the Caltech faculty.

Borsook received his undergraduate and graduate degrees from the University of Toronto and came to Caltech in 1929 as assistant professor of biochemistry. His interest in proteins led him in the early 1930s to a new theory about their metabolism. Evidence at that time indicated that proteins were probably very stable, but Borsook believed that there was a continual interchange of proteins, that they were in a state of constant flux. He conducted tests (this was before the discovery of isotopes) that proved the accuracy of his theory, but it met with considerable resistance from other biochemists. The instability of molecules is now unquestioned.

His 1940 book, *Vitamins: What They Are and What They Will Do for You*, was one of the first to present contemporary nutritional ideas to the layman. During World War II he was engaged in research on the importance of nutrition both at home and at the front. As an extension of his research, he developed the multipurpose food (MPF) that is distributed widely to underdeveloped areas of the world by the Meals for Millions Foundation.

Currently on leave of absence from Caltech, Dr. Borsook is doing research at the University of California at Berkeley on the function and production of red blood cells. He will continue this work after his retirement.



*Henry Borsook*

### ROBERT COREY

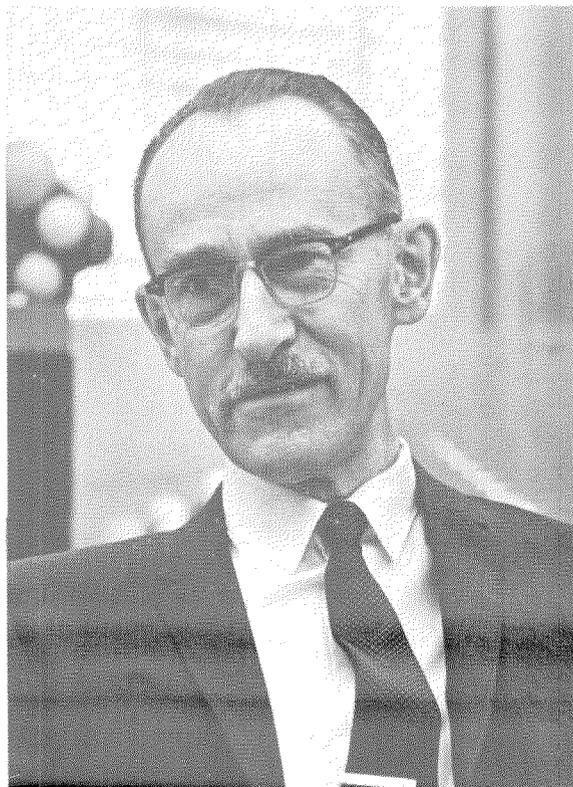
*professor of structural chemistry*

Robert Corey, after more than 30 years at Caltech, will become professor of structural chemistry, emeritus, this month. After receiving his bachelor's degree from the University of Pittsburgh and his PhD from Cornell University (where he also taught for five years), Dr. Corey began working at the Rockefeller Institute for Medical Research in 1929. It was there that he became interested in the structure of molecules, work that has occupied much of his time for the past 30 years. In 1937 Dr. Corey came to Caltech for a brief stay, because the Institute had the equipment necessary for his studies in x-ray crystallography. He was encouraged to remain, however, by the stimulating atmosphere he found here and by the people interested in his field of research. Linus Pauling, then chairman of the chemistry division, had been working on the structure of proteins, but needed more information about the dimensions of the bonds and bond angles and the radius of the atom in the peptide chains—a project Corey undertook.

Except for his research on rocket fuels during World War II, he worked steadily on the development and improvement of reliable models for use in the study of protein structure. The current "CPK models" are named for Corey, Pauling, and Koltun (who developed the plastic form of the models).

In recent years, Corey has been involved in the determination of the structure of protein molecules by the investigation of the structure of protein crystals. After retirement he hopes to continue to be active in some aspects of this work.

*Robert Corey*



**LOUIS WINCHESTER JONES**, *associate professor of English; dean of admissions*

Louis Winchester Jones retires this month and will become dean of admissions, emeritus. For nearly 40 years he has had a hand in the selection of Caltech's freshman class—and thus, a hand in shaping the kind of school Caltech has become.

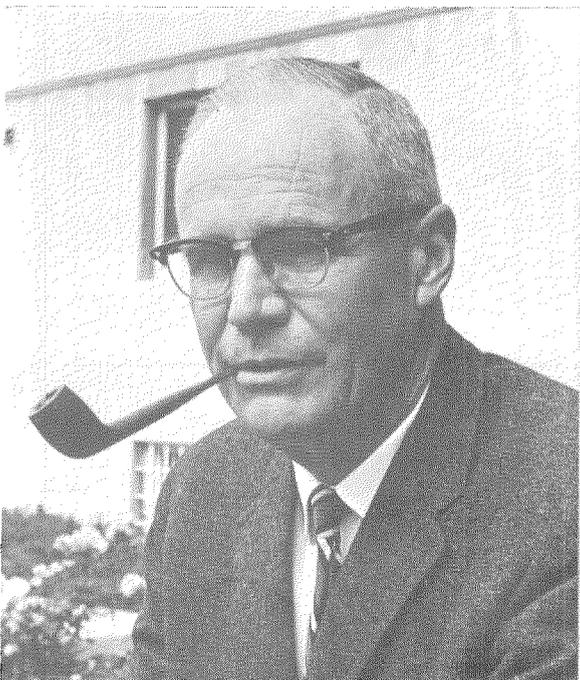
Winch Jones became a member of the admissions committee in the late twenties, when its chairman was James Bell, professor of chemistry. Caltech had only about 300 applicants then, nearly all from local high schools, and the Institute gave its own entrance exams. Professor Bell personally perused all the applications and selected most of the winners. Then he assembled the half-dozen members of the committee, and they settled the fate of the few borderline cases remaining. It all took the better part of one day.

The admissions program has changed considerably since Winch Jones became dean in 1937. An admissions committee of 15 members now works for nearly two months studying the records of applicants, another week or two interviewing all over the country, and another week selecting those who will make up the freshman class—about 200 from a field of nearly 1,200—and assigning scholarships.

Dean Jones has worn an assortment of hats at Caltech. From 1925 to 1960 he taught English, becoming an associate professor in 1943. Since 1960, however, he has had to devote full time to admissions and financial aid. He has been assistant dean of upperclassmen, registrar, director of admissions, and finally, dean of admissions and director of undergraduate scholarships. And he has been a trustee of the national College Entrance Examination Board, membership chairman of that board, and president of its West Coast section.

Retirement plans? Dean Jones says, "I'll figure that out after I'm retired."

*Robert B. King*



*Louis Winchester Jones*

**ROBERT B. KING**  
*professor of physics*

Robert B. King, professor of physics, retires this month after 20 years on the Caltech faculty. A native of Pasadena, he attended Pasadena schools and was graduated from Pomona in 1930. In 1933 he received his PhD in astronomy from Princeton.

In 1933-34, Dr. King was a National Research Fellow at Mount Wilson Observatory. He became instructor of physics at MIT in 1935, returning to Mount Wilson Observatory in 1938. He was appointed associate professor of physics at Caltech in 1948 and professor in 1952.

Dr. King, who has more than 25 publications on astrophysics, is a member of the American Physical Society, American Astronomical Society, Astronomical Society of the Pacific, International Astronomical Union, and Optical Society of America. He received the Naval Ordnance Development Award in 1945 and the President's Certificate of Merit in 1948 for his work with rocket fuzes during World War II.

Dr. King, 60, has elected to retire early in order to move to his oceanfront home near Mendocino.



Arthur L. Klein

## ALFRED STERN

*professor of philosophy and languages*

After 21 years at Caltech, Alfred Stern retires this month to become professor of philosophy, emeritus. A native of Vienna, Austria, he received his PhD from the University of Vienna and later taught philosophy at the University of Paris and the Institute of High Studies of Belgium. During World War II Dr. Stern served as a volunteer in the French Army. After his demobilization in 1942, he went to Mexico, where he taught at the National University and the French Lyceum. In 1947 he came to Caltech and taught French and German language and literature, and later, philosophy. His courses in "Philosophy and Literature" and "Contemporary European Philosophy" became very popular.

Dr. Stern is the author of several books and a contributor to philosophical journals of many countries. His book, *Sartre—His Philosophy and Existential Psychoanalysis*, appeared in English, Spanish, and Japanese editions; his *Philosophy of History and the Problem of Values* was published in five languages. Dr. Stern is fluent in English, French, German, and Spanish and did most of the translations himself. He also published: *Philosophy of Laughter and Tears* and *The Philosophy of Values* in French and Spanish, *The Philosophical Foundations of Truth, Reality and Value* in German, *The Philosophy of Politics* in Spanish, and *The Concept of Will in Schopenhauer* in German. His latest book, *Philosophical Vistas—A Search for Meaning*, will be published in English.

In 1964 Dr. Stern was elected president of the Pacific division of the American Philosophical Association. He is a Knight of the Legion of Honor of France, vice president of the Alliance Francaise of Los Angeles, and editorial consultant of *Folia Humanistica* in Barcelona, Spain.

After his retirement Dr. Stern and his wife, the Puerto Rican writer, Marigloria Palma, will move to their 200-year-old Spanish house in San Juan. Dr. Stern will teach philosophy—in Spanish—at the University of Puerto Rico in Mayagüez.

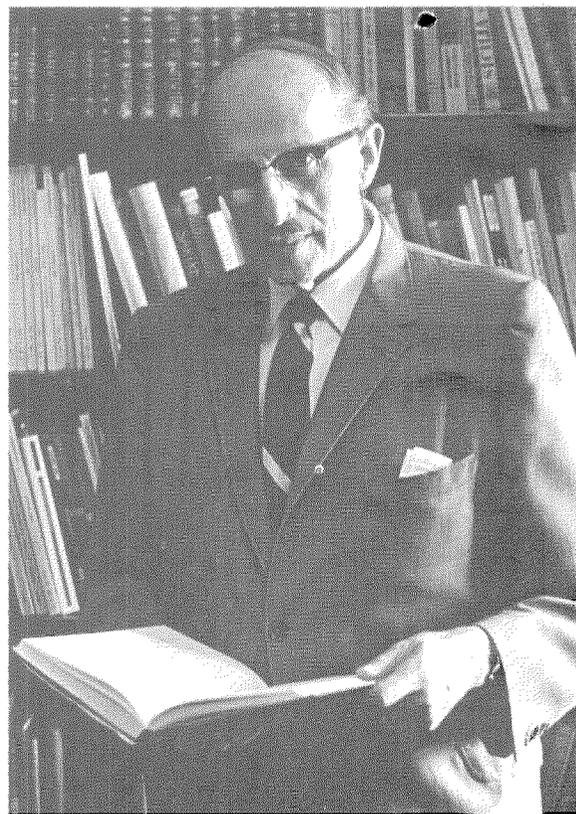
## ARTHUR L. KLEIN

*professor of aeronautics*

In 1927, when Arthur Klein was a research fellow in physics, a mathematician named Clark Millikan occupied the office across the hall. When Millikan and Theodore von Kármán began formulating plans for the construction of Caltech's Guggenheim Laboratory of Aeronautics and for a wind tunnel, Klein began to see more and more of his two associates. He had studied engineering as an undergraduate and graduate student at Caltech, and there were questions about engineering problems, about the practical application of their ideas in terms of equipment. Within a year Dr. Klein was doing all the designing and engineering for aeronautics, from the building of Guggenheim to the construction of the wind tunnel and the design of experimental equipment connected with it. Dr. Klein became a member of the aeronautics faculty in 1929. Only now, after 40 years, is the equipment in Guggenheim Laboratory being renovated and replaced. And once again Dr. Klein is supervising the design and installation.

In 1937, Dr. Klein began spending half of his time with Douglas Aircraft, where he had been an intermittent consultant since 1932, and he has been instrumental in the design of many of their aircraft over the last 20 years.

After his retirement this month to become professor of aeronautics, emeritus, he will complete his work on the new apparatus in Guggenheim and will retain his position as consultant to Douglas Aircraft.



Alfred Stern

*Engineering and Science*

## HENRIETTA SWOPE

*research fellow in astronomy*

Henrietta Swope, research fellow in astronomy at the Mount Wilson and Palomar Observatories, retires this year after 16 years on the staff. Her retirement, however, will not mark the end of her research on variable stars.

Although Miss Swope traces her interest in stars back to her childhood, she became professionally interested in astronomy while getting her AB degree in math at Barnard. In 1926 she began doing graduate work in astronomy at Radcliffe, spending most of her time at the Harvard College Observatory in Cambridge. She became a research assistant there that same year and held this post until World War II, when she was asked to go to MIT's Radiation Laboratory to help develop a secret form of navigation called Loran.

After the war Miss Swope taught astronomy to undergraduates at Barnard and at Connecticut College for Women, but her real enthusiasm was for research, and in 1952 she welcomed an opportunity to come to Pasadena as research assistant at the Mount Wilson and Palomar Observatories, assisting Walter Baade with his research on variable stars.

One of her most significant contributions to the field is her calibration—the most accurate to date—of the distance from the earth to Andromeda, by means of determining the brightness of the cepheid beacons in the spiral arms of that galaxy. This measurement has become the “cepheid yardstick” by which other relative distances in the universe are calculated.



*Ray E. Untereiner*



*Henrietta Swope*

## RAY E. UNTEREINER

*professor of economics*

After 43 years at Caltech, Ray E. Untereiner retires this month to become professor of economics, emeritus. Born in Redlands in 1898, he was graduated from the university there in 1920, received his MA in economics from Harvard in 1921, his law degree from Mayo College in Chicago in 1925, and his PhD from Northwestern in 1932.

Dr. Untereiner first taught history and economics at Caltech in 1925, and in addition maintained a law practice in Los Angeles until 1931. From 1939 to 1943 he also served as dean of freshmen.

During the late twenties and early thirties Dr. Untereiner's history classes included as many as 160 students and were conducted in Dabney Lounge—the only room large enough to accommodate the group. William Pickering, now director of JPL, used to grade examinations for him for 75 cents an hour. Social activities then centered around the Robert Millikan home. Every year Dr. Millikan invited freshmen to Sunday dinner, in groups of about 30. The Untereiners were always in attendance, their duty being to make sure that the boys asked to see Dr. Millikan's medals—and left the house promptly at 10 p.m.

The Untereiner family lived on San Pasqual across the street from the campus for 34 years. Once, to their surprise, they discovered that the “old gentleman down the block” who had been voluntarily tutoring their son in grammar school “numbers” was Albert Einstein.

Dr. Untereiner has been active in local and state government affairs. He has served as chairman of the Los Angeles County Citizen's Committee on Local Taxation, president of the Pasadena Board of Education, and chairman of the City Recreation Commission and as a member of the California State Public Utilities Commission. Following a summer Caribbean cruise, Dr. Untereiner plans to continue his legal consultation practice.

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*FRITZ ZWICKY, professor of astrophysics; staff member, Mount Wilson and Palomar Observatories*

Fritz Zwicky retires this month to become professor of astrophysics, emeritus. A pioneering astronomer, Zwicky was born in 1898 in Varna, Bulgaria, and received his BS and PhD degrees from the Federal Institute of Technology in Zurich. A Swiss citizen, Zwicky came to Caltech in 1925 as an International Research Fellow in physics for the Rockefeller Foundation, after five years as a research assistant at Zurich. He still speaks of his early years here as some of the happiest of his life.

The faculty in the late 1920s was a close-knit group which shared social activities as well as working relationships in classrooms and laboratories. Physics department dinners were almost weekly events, and on weekends the physicists were often mountain climbing or skiing together.

Dr. Zwicky has gained worldwide recognition for his discovery of 45 supernovae. He has published more than 300 articles on physics, jet propulsion, astronomy, and the philosophy of science, and he has written seven books. After 30 years of work, he and four collaborators have completed a six-volume catalog of galaxies and clusters of galaxies. He has been a professor of astrophysics since 1942 and a staff member of the Mount Wilson and Palomar Observatories since 1948. He was awarded the U. S. Medal of Freedom by President Truman in 1949, the U.S. Army Air Forces Commendation for Meritorious Civilian Service for his work with rocket propulsion during World War II, and the Gold Medal awarded by the Pestalozzi Foundation, which supports about 60 villages for war orphans and destitute children on all continents. He is the founder of the International Society for Morphological Research and vice president of the International Academy of Astronautics.

## A New Chemical Physics Laboratory

The completion of Caltech's new \$4 million Arthur Amos Noyes Laboratory of Chemical Physics was celebrated on May 6 and 7 with a two-day symposium and dedication ceremony. More than 200 distinguished scientists and educators attended, some of them former students and colleagues of the man for whom the building is named—A. A. Noyes, director of chemistry at Caltech from 1919 to 1936. Noteworthy among these were Linus Pauling, Earnest Watson, and Ernest Swift.

Dr. Pauling, now professor of chemistry at the University of California at San Diego, came to Caltech in 1922 to do graduate work under Noyes and eventually succeeded him as chairman of the chemistry division when Noyes died in 1936. Dr. Watson, professor of physics, emeritus, came to Caltech at the same time as Dr. Noyes and was a close personal friend for many years. Dr. Swift, professor of analytical chemistry, emeritus, joined Dr. Noyes' chemistry department in the early twenties and, in 1958, succeeded Dr. Pauling as division chairman.

The symposium featured lectures by five scholars in the field of chemical physics from four western universities and by Donald F. Hornig, special assistant to President Johnson and director of the office of science and technology.