

After receiving their degrees, 125 Bachelors of Science pose for a group picture on the steps of the Athenaeum.

The Month at Caltech

Commencement

At Caltech's 64th annual commencement on June 13, a total of 325 students received degrees—125 Bachelors of Science, 140 Masters of Science, 10 Engineers and 50 Doctors of Philosophy.

Of the 45 men who graduated with honors, 4 received both academic honor and Student Body Honor Keys: Glen L. Converse, Michael W. Konrad, David B. Leeson and Donald Stern. Honor Keys were awarded to 12 seniors in all.

The Frederick W. Hinrichs, Jr., Memorial Award for the most outstanding senior this year went to Richard L. Van Kirk. The award consists of \$100, a certificate and a memento. The Sigma Xi Award for research of exceptional quality by a graduate student was presented to Peter Crawley, who received his PhD in mathematics.

The commencement address, "The Challenge of Change," was given by Dr. Detlev W. Bronk, president of the Rockefeller Institute for Medical Research and president of the National Academy of Sciences.

Five buildings

Though the Caltech Development Program has just gotten under way, President L. A. DuBridge reported at the 1958 commencement ceremonies on June 13 that "substantial progress" has already been made.

Of the total goal of \$16,100,000, in fact, more than \$4,000,000 has been subscribed to date.

"Of the 13 buildings in our Campus Development plan," said Dr. DuBridge, "5 have now been assured by specific gifts: A laboratory of molecular biology from Dr. Gordon Alles, a Caltech alumnus, and from the U.S.

Albert B. Ruddock (left), chairman of Caltech's board of trustees, who presided at the ceremonies; and commencement Speaker Detlev W. Bronk, President of the Rockefeller Institute for Medical Research and president of the National Academy of Sciences.



Public Health Service; a new laboratory of plant research from the Campbell Soup Company; a new student activities center from Mr. P. G. Winnett; and two anonymous givers have assured a graduate house and an undergraduate house, respectively.

"In addition, other funds are coming in at such a rate that it will be possible to begin construction this summer of a new home for our plant maintenance department to be located across San Pasqual Street from the present campus. We hope to complete this building by next spring and begin then the long-anticipated pleasure of tearing down the temporary buildings which now occupy the northeastern part of the campus. On this portion of the campus there will then be erected the new undergraduate student houses and the new student activities center.

"Our goal of 16 million dollars, though large, is not an extravagant one. The needs for additional undergraduate living facilities, for a student activities center, for additional laboratories for teaching and research in engineering, physics, mathematics and biology, the need for a new library and a new auditorium—all these have long been felt, and for many years our campus planning has envisaged the construction of these facilities. It became apparent a few years ago that only a concentrated drive would allow us to acquire these facilities in time to pursue our program of education and research on the campus without serious interruption.

"The financing of such plans means extraordinarily generous giving on the part of the friends and supporters

of this institution," Dr. DuBridge said. "The campus facilities which will be made possible by this drive will fill our foreseeable needs, but the \$16,100,000 will by no means be adequate to fulfill all the other needs which we will face for annual income, to finance our program, and to pay adequate faculty salaries during the coming years. Our efforts to secure new income will have to be unceasing in the future as they have been in the past. The new campus facilities which we now hope to finance will go a long way toward assuring the continuity and excellence of our program."

Nuclear weapons talks

Robert F. Bacher, chairman of Caltech's division of physics, mathematics and astronomy, is one of the three-man team of U.S. nuclear scientists chosen by President Eisenhower to discuss ways of policing a nuclear weapons test ban with Russian scientists in Geneva, Switzerland, this month.

The other members of the U.S. delegation are Ernest O. Lawrence, director of the University of California Radiation Laboratory; and James Brown Fisk, executive vice president of the Bell Telephone Laboratories. Dr. Bacher and Dr. Fisk are members of President Eisenhower's Science Advisory Committee.

Nuclear physics has been Dr. Bacher's chief interest throughout his career. A graduate of the University of Michigan, he received his PhD there in 1930, taught at Columbia University, then, in 1935, joined the physics



Walter Baade, staff member of the Mount Wilson and Palomar observatories.

department at Cornell University, where he remained until 1949.

On leave of absence from Cornell from 1941 to 1943 he worked at the Radiation Laboratory, the radar project set up at the Massachusetts Institute of Technology which was headed by L. A. DuBridge.

From 1943 to 1945 he worked on the atomic bomb project at Los Alamos, as head of the Experimental Physics Division, and head of the Bomb Division.

At the end of the war he returned to Cornell to become the first director of the university's Laboratory of Nuclear Studies and, in 1946, doubled as scientific advisor to Bernard Baruch, who was then head of the United Nations Atomic Energy Commission. When the United States Atomic Energy Commission was established in that same year, Dr. Bacher was appointed a member of it—the only scientist in the group. He served as an AEC Commissioner for three years, and left in 1949 to take his present position at Caltech.

Scientist of the Year

William A. Fowler, professor of physics, was named co-winner of the first annual Science Award presented by the California Museum of Science and Industry on June 5. He thereby shares the title of "California Scientist of the Year" with Heinz Fraenkel-Conrat, biochemist in the Virus Laboratory at the University of California.

Dr. Fowler's research involves the studies of nuclear forces, the structure of light nuclei, thermonuclear

sources of stellar energy and element synthesis in stars (*E & S—March, 1956*). Specifically, he received the Science Award "in recognition of his outstanding contributions to enlarging our understanding of the nuclear processes that take place in the stars, thereby clarifying the manner in which the chemical elements have been synthesized from primordial hydrogen, revealing the history of the birth, life and death of the stars themselves, and thus extending man's knowledge of the universe in which he lives."

Dr. Fraenkel-Conrat (with Dr. Robley Williams, a colleague at the Virus Laboratory) achieved the first historic reconstitution of a virus; the men separated the tobacco mosaic virus into its protein and nucleic acid parts, then put the components back together again.

Retirement

Walter Baade retires from the staff of the Mount Wilson and Palomar Observatories on June 30. He has been a staff member for 27 years.

Dr. Baade introduced the concept of population types in stars—Population I, whose most prominent features are the blue giant stars; and Population II, characterized by the red giants. Studies of these two populations provided the observational basis for present theories of stellar evolution which suggest that the difference between the population types is primarily one of age.

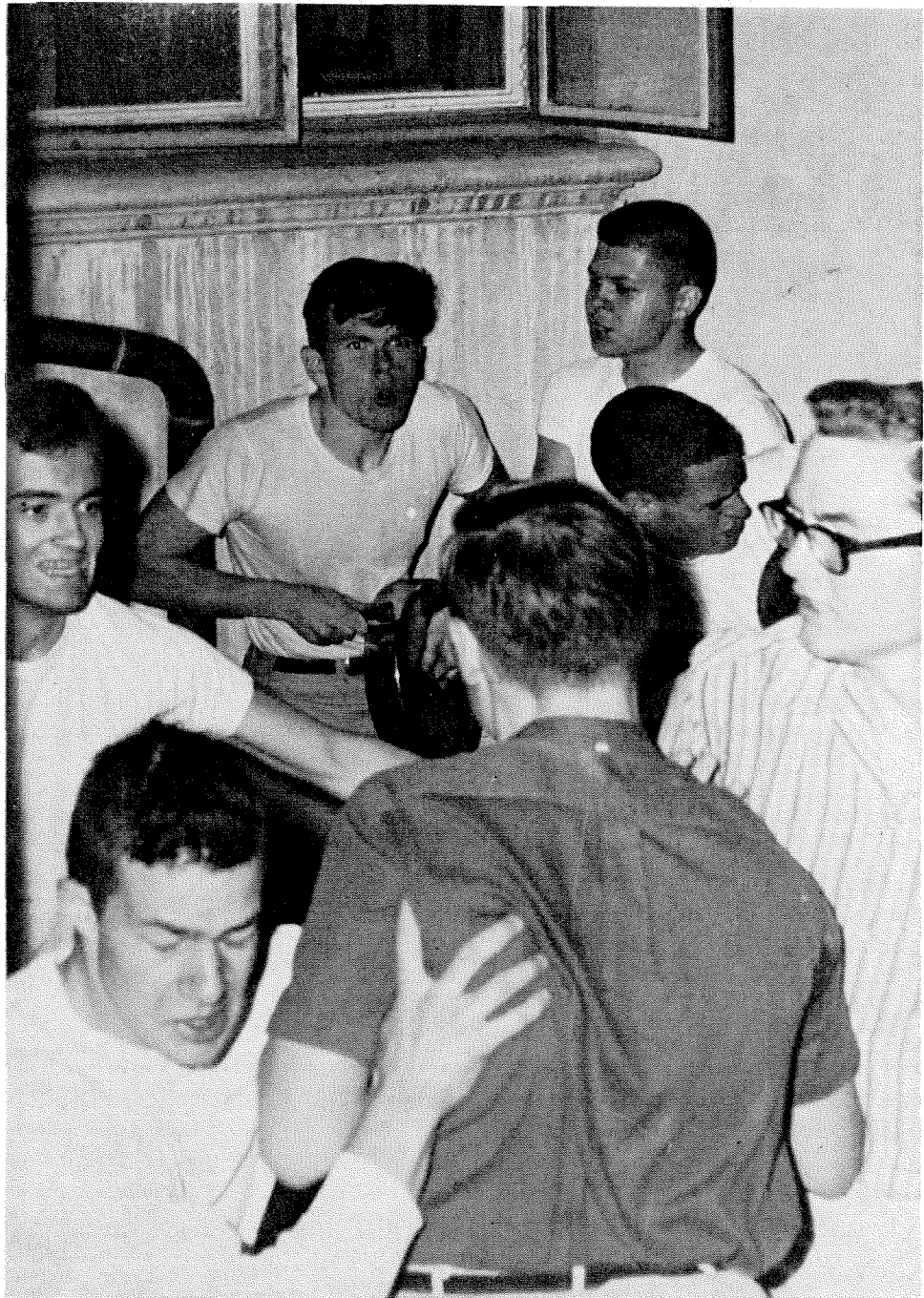
After the completion of the 200-inch Hale telescope, Baade's studies of the cepheid variable stars (distance



William A. Fowler, professor of physics, receives award as California Scientist of the Year from President DuBridge, chairman of the award jury.

No spring is complete without a brakedrum riot at Caltech, when Ricketts House freshmen and sophomores battle for possession of this chrome-plated heirloom. The class in possession of the brakedrum brings it out of hiding and attempts to ring it noisily for 20 seconds—like the freshman at the right. All he had to do after this was outrun the sophomores and hide the drum.

P.S. He didn't make it.



indicators in the Andromeda Galaxy and elsewhere) led to the discovery that all objects beyond the Milky Way were more than twice as far from us as we had supposed before—the observable universe was more than twice as large as we had supposed.

Dr. Baade also collaborated with Rudolph Minkowski in the identification of radio sources with optically observed objects, and in the physical interpretation of the nature of these sources.

A native of Schröttinghausen, Germany, Baade studied at the University of Muenster and Göttingen—where he received his PhD degree in 1919. He served as an assistant and later as an observer at the Hamburg Observatory, before joining the Mount Wilson Observatory in 1931.

Dr. Baade is a member of the American Astronomical Society and an associate of the Royal Astronomical Society. In 1954 he received the Gold Medal of the Royal Astronomical Society and, in 1955, the Bruce Gold Medal of the Astronomical Society of the Pacific.

AEC nominee

John A. McCone, chairman of the ways and means committee of Caltech's board of trustees, was nominated as a member of the Atomic Energy Commission by President Eisenhower on June 6. He will succeed Lewis L. Strauss, who is resigning as chairman of the AEC. Mr. McCone is president of the Joshua Hendy Corporation in Los Angeles.