

THE MONTH AT CALTECH



Dr. Hubble, scientific director of the Schmidt Survey.

Sky Survey

While the mirror of the big 200-inch telescope was being given a final polishing, to remove a few millionths of an inch of surplus glass from its surface, the 48-inch Schmidt telescope at Palomar was launched this month on a project to produce a photographic map of the skies. A joint research effort of the Institute and the

National Geographic Society, the survey will result in the first definitive atlas of the sky.

The Big Schmidt, a wide-angle photo telescope, will take four years to make its sky survey. The 200-inch telescope, which has tremendous penetration but limits vision to a pin-point field, would take something like 5,000 years to do the job. The Schmidt can get clear, sharp pictures of objects as much as 300 million light years away. Using the same technique that aerial photomappers employed in the war it will make a complete record of the heavens in some 2,000 photographic plates. These will be the subjects of intensive, small-area study by the 200-inch telescope later on.

A major aim of the survey is to make the Schmidt's sky atlas available at cost to observatories, astronomers and higher educational institutions throughout the world. The completed atlas will fill some twenty oversized volumes, and cost about \$2,000 a copy. Whatever the final price, though, it will be relatively inexpensive because of the extensive financial aid of the National Geographic Society. Dr. Edwin P. Hubble will be scientific director of the survey.

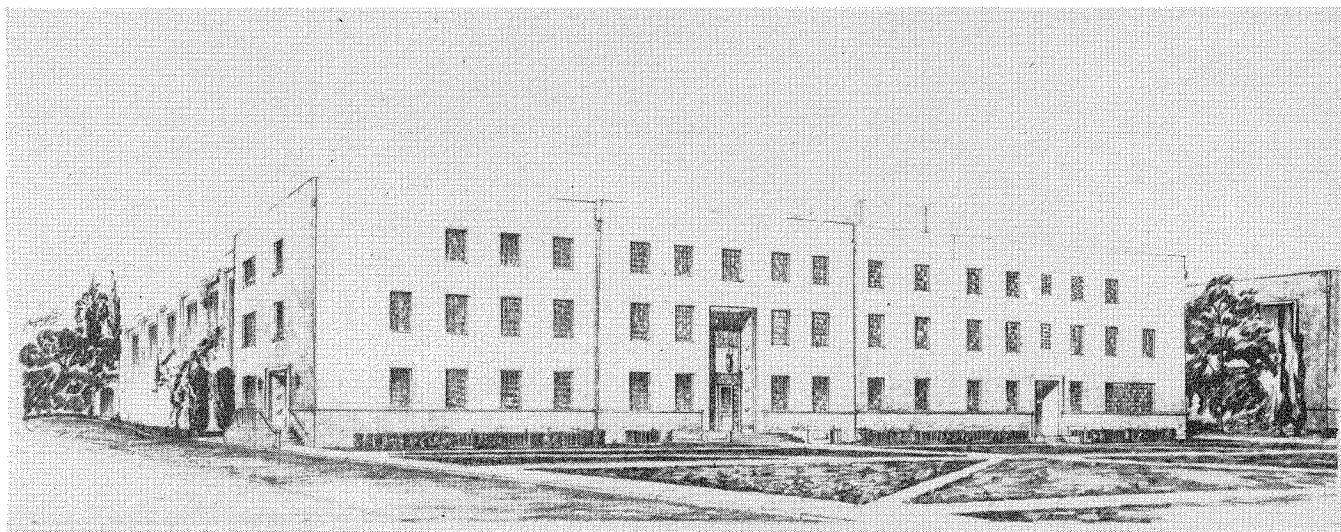
New engineering building

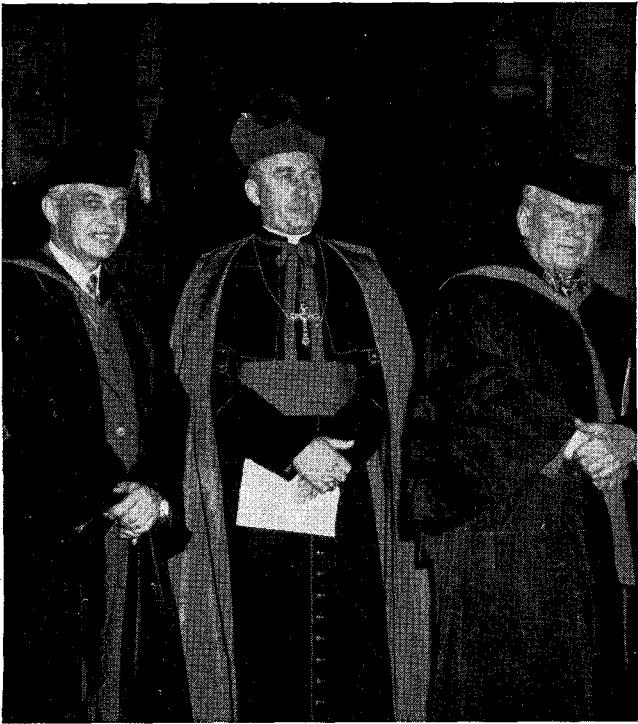
Bids were being received this month for construction of a new \$500,000 engineering building on the campus. The new building will adjoin the present Mechanical Engineering building, and face Aeronautics. It's to be a three-story structure, with two basements, and 34,000 sq. ft. of floor space. It should be completed about a year after the contract is let. It will house all civil engineering offices and classes—now crowded into Throop Hall—as well as applied mechanics, metallurgy, the thermodynamics lab, concrete structures lab, strength and materials lab, and a lab for earthquake studies.

Anderson resigns

Mason Anderson, head football coach, resigned his Caltech post last month to enter the banking business in his home town of Breckenridge, Texas. Anderson first gained recognition at Caltech in 1944 when, as

Going up — a \$500,000 engineering building to adjoin ME. Structure at right is artist's version of Old Dorm.





President DuBridge, Bishop Joseph T. McGucken, and Dr. R.A. Millikan, about to join the Commencement procession.

a member of the V-12 Training Staff, he coached the football team through an undefeated and unscored-on season. After his discharge from the Service in 1945, he returned to Caltech to coach football, "B" basketball (in '46-'47), and Varsity track (in '49). No replacement for Coach Anderson has been made yet, but it is hoped the new man can be selected by midsummer.

Honorary degree

At the latest count, four Caltech faculty members were awarded honorary degrees during the 1949 commencement season.

George W. Beadle, Professor of Biology and Chairman of the Division of Biology, received the degree of Doctor of Science from his alma mater, the University of Nebraska.

Linus Pauling, Professor of Chemistry and Chairman of the Division of Chemistry and Chemical Engineering, was awarded the degree of Doctor of Humanities by the University of Tampa.

Alfred H. Sturtevant, Professor of Genetics, was given a Doctor of Science degree by the University of Pennsylvania.

And Franklin Thomas, Professor of Civil Engineering and Dean of Students, received a Doctor of Engineering degree from the University of Southern California.

Chairman Millikan

Dr. Clark B. Millikan, Professor of Aeronautics and Director of the Guggenheim Aeronautical Laboratory, has been named Chairman of the Guided Missiles Committee of the Research and Development Board. A member of the committee since it was organized in 1946, Dr. Millikan succeeds Dr. Frederick L. Hovde, president of Purdue University, as chairman.

1949 Commencement

The big news of the month, of course, was Commencement. And the big news of the 1949 Commencement was the size of it. Five hundred students were graduated this year—the same number as last year—which was the largest number in the history of the Institute.

The 60 Doctor of Philosophy degrees which were awarded this year established a new record too. Last year's total was 45.

Ninety men received the B.S. degree in Science—16 of them with honors; 121 men received the B.S. in Engineering—15 with honors.

Forty-one men were given the M.S. in Science—5 in Chemistry, 8 in Chemical Engineering, 7 in the Geological Sciences, 6 in Meteorology, 15 in Physics. The M.S. in Engineering went to 134 men—47 in Aeronautics, 22 in Civil Engineering, 36 in Electrical Engineering, and 29 in Mechanical Engineering.

Fifty-four men were awarded Engineer's Degrees—32 Aeronautical Engineers, 9 Aeronautical Engineers in Jet Propulsion, 2 Chemical Engineers, 1 Geophysical Engineer, 9 Industrial Designers, 1 Mechanical Engineer.

Scholars

James Hummel, editor of the *California Tech*, had the highest scholastic average in the graduating class—3.584 out of a possible 4 points. Second and third were Hardy Cross Martel and Robert E. Kofahl. Richard Allen Ferrell '48, who received his M.S. in Physics this year, broke a few records by getting straight A's in every course in his graduate study—including quantum mechanics and mathematical analysis, spectroscopy, geometrical and physical optics, and analytical mechanics. The newspapers, operating on the premise that Caltech is the "toughest" school in the country, decided that Ferrell must be the "Nation's Smartest College Boy."

Hinrichs award

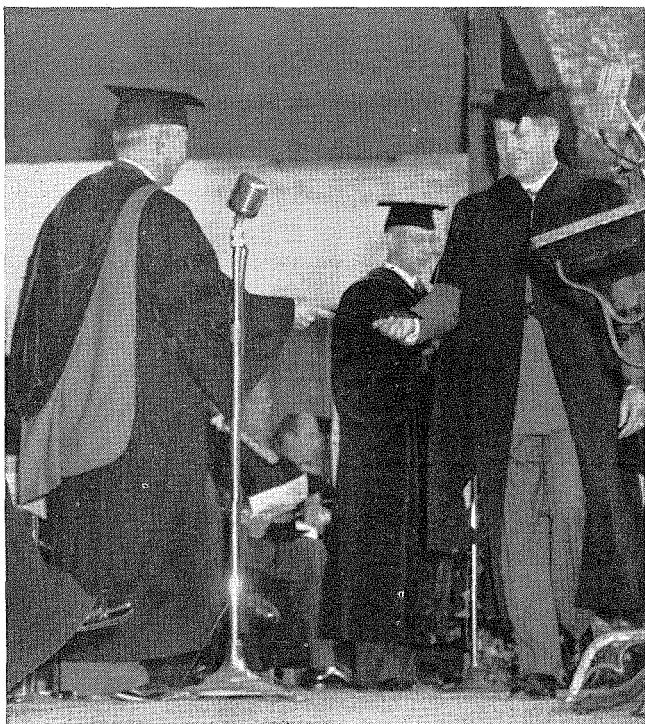
The annual Frederic W. Hinrichs, Jr. Memorial Award—\$100 in cash, a certificate, and a suitable memento—which goes to the outstanding senior, on the basis of leadership, responsibility and contributions to student body welfare, this year went to Paul D. Saltman who, among other things, was ASCIT Athletic Manager, Beaver, Basketball Captain, owner of two honor keys, and columnist for the *California Tech*.

Physics and politics

Peter H. Odegard, Professor of Political Science at the University of California in Berkeley, and former president of Reed College in Portland, Ore., was this year's Commencement speaker. In his address on "Physics and Politics" Dr. Odegard reviewed the long and often stormy history of the partnership between science and technology and government and politics.

"When the gap between technology and social organization, between physics and politics, becomes too great," he said, "when the manifest promise of life runs too far ahead of the actual daily experience of the masses of the men and women, it becomes a major cause of social conflict and instability."

Perhaps the poorest suggestion of all for doing away with this conflict and instability, said Dr. Odegard, is to declare a "moratorium" on science. "We could not have a moratorium on science without declaring a moratorium on civilization. Our problem is not to put curbs on science and technology, but to accelerate their development and utilization in the service of mankind."

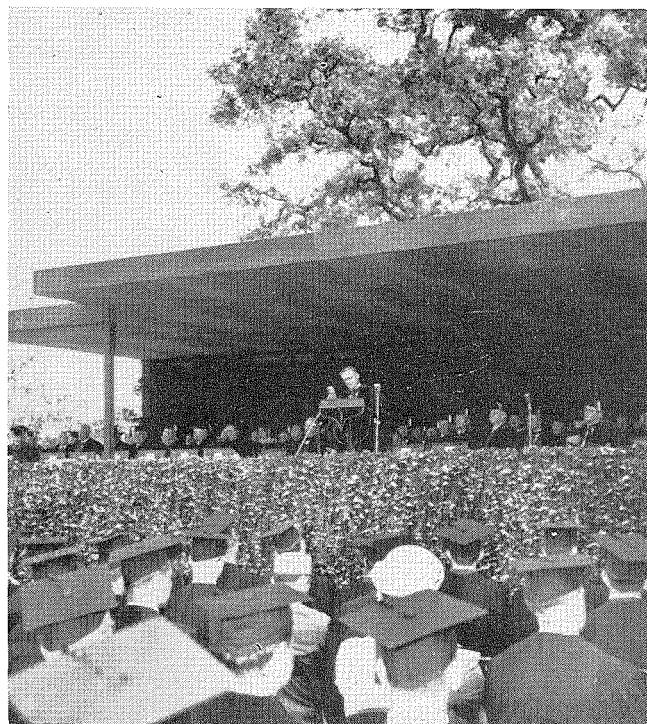


President DuBridge presents degree to one of the 500 graduates who made this Caltech's largest Commencement.

Our difficulty is not that science has outdistanced civilization, but rather that civilization, which has made science possible, has not yet learned how best to use it for constructive ends."

Chaplain's address

The Most Rev. Joseph T. McGucken, Auxiliary Bishop of the Archdiocese of Los Angeles, struck the same key in his Chaplain's Address. "Hiroshima has shown us that we can't get along without philosophy and religion," he said. "We have come dangerously near the destruction of the gains of 2,000 years. Your task is nothing less than the reconstruction of civilization."



Commencement Speaker Peter H. Odegard, University of California, delivers address on "Physics and Politics."

President's charge

Said President DuBridge, in his charge to the graduating class: "For the rest of your lives you will be continually being tested as to whether you learned anything while you were here. And what, may I ask, have you learned? . . . What I hope you have learned is just one thing—that you have learned how to learn. Your experience here should have prepared you to learn far more during the coming five years than you have learned during the past five. Your diploma . . . means not that you have completed your education, but that you have prepared yourselves to begin it."



If any other record was broken at the 1949 Commencement it was in the number of graduates' offspring in



attendance. Above (right) a typical family group has some typical family trouble (left) getting a picture.