The Right Reverend Francis Eric Bloy delivers the Invocation at Caltech's 57th annual Commencement exercises.

THE MONTH AT CALTECH

Commencement

A TOTAL OF 357 students received degrees from the Institute at the annual Commencement exercises held on Friday afternoon, June 8.

Eighty-one men received the B.S. degree in Science—19 of them with honors; 79 men received the B.S. in Engineering—11 with honors.

Of the 30 men graduating with honor, seven coupled this distinction with "exceptionally effective participation in extracurricular activities", for which they were awarded Student Body Honor Keys. They are Dallas Peck, Ulrich Merten, Robert Kurland, William Whitney, Peter Mason, Richard Lihbey and Charles Steese, Jr.

Twenty-six men were given the M.S. in Science—3 in Chemistry, 3 in Chemical Engineering, 6 in the Geological Sciences, 1 in Meteorology, 7 in Physics. The M.S. in Engineering went to 87 men—30 in Aeronautics, 15 in Civil Engineering, 20 in Electrical Engineering and 22 in Mechanical Engineering.

Seventeen men were awarded Engineer's degrees, and 68 men received Ph.D. degrees.

Among the graduates were 17 members of the Armed Forces, assigned to Caltech for advanced study by the Army, Navy, Air Force and Marine Corps.

James R. Page, Chairman of the Board of Trustees, presided at the ceremonies. The Right Reverend Francis Eric Bloy, Episcopal Bishop of Los Angeles, delivered the Invocation and Benediction. Degrees were conferred by President DuBridge, who also delivered the charge to the graduating class and reported briefly on Institute activities during the school year.

Commencement speaker this year was Thomas K. Finletter, Secretary of the Air Force. His address appears in full on page 7 of this issue.

Mr. Finletter, who succeeded W. Stuart Symington as Air Force Secretary in April, 1950, is credited with promoting military teamwork and the joint task concept of combined Army, Navy and Air Force defense activity, emphasizing the development of long-range bombers as a deterrent to aggression. Under his leadership the Air Force is being built up from 48 groups to a total of 95 wings by 1952.

Born in Philadelphia in 1893, Mr. Finletter was graduated with top honors from the University of Pennsylvania and went on to the University's Law School. His

law training was interrupted by service in the first World War, and in 1920 he was graduated, again with highest honors. In 1931, when he had a successful law practice in New York, he returned to his old law school as a lecturer, and commuted between the two jobs for the next 10 years.

Mr. Finletter entered government service in 1941 as special assistant to the Secretary of State on international economic affairs. In 1945 he was consultant to the United States delegation to the United Nations Conference in San Francisco. In 1947 he was named chairman of the President's special Air Policy Commission. In 1948 he went to England as chief of the Economic Cooperation Administration mission to the United Kingdom.

Mr. Finletter was accompanied to Pasadena this month by his wife, the former Margaret (Gretchen) Damrosch, daughter of the late composer and conductor, Walter Damrosch.

Fulbright Scholars

TWO CALTECH STUDENTS have been awarded Fulbright Scholarships for foreign study in 1951-52.

Sanford Sweet, a senior, of Stockton, California, will study physics and philosophy at the University of Edinburgh, Scotland. At Caltech on a scholarship, Sweet has been vice-president of the Caltech Musicale, a member of Tau Beta Pi, the Y.M.C.A., and a varsity basketball letterman. He recently won both the McKinney Prize Contest in English and the Conger Peace Prize Contest.

Norman M. Wolcott, graduate physics student from St. Paul, Minnesota, will continue his study of physics at Oxford University, England. He was graduated from Harvard summa cum laude in 1949, and received his M.S. in physics there in 1950. He is a member of Phi Beta Kappa.

Fulbright scholars are selected not only on the basis of scholarship, but on suitability as representatives of American life and on their ability to adapt to conditions abroad. The scholarships are awarded under an act of Congress sponsored by J. William Fulbright, senator from Arkansas. Funds used in the program, in which 20 countries are now participating, are foreign currencies realized through surplus property sales abroad.

The class of '51 steps to the platform to receive degrees

Waiting to join the academic procession—R. A. Millikan, Bishop Bloy, Leonard C. Lyon and James R. Page

Richard Springer

THE DEGREE OF Master of Science was awarded posthumously to Richard Earl Springer, 25, of Los Angeles, who lost his life in an automobile accident on May 26.

Dick Springer received his B.S. from the Institute in 1945 and was majoring in electrical engineering. As an undergraduate he was prominent in athletics. He was a member of the water polo team, had been senior manager of the baseball team and was a leading member of the Ski Club. He headed the touring and hut committee of the Far West Ski Association and was a ski patrolman.

Dick had done a large amount of snow survey work, including a winter spent in Mineral King for the purpose of studying snow and avalanche conditions there, and he had planned to study avalanche-craft in Switzerland next winter.

A movement is now under way to raise funds for a Dick Springer Memorial Hut to be built in Mineral King.

Hinrichs Award

OLIVER H. GARDNER, of Melrose, Mass., was named 1951 winner of the Frederic W. Hinrichs, Jr., Memorial Award at the Commencement ceremonies.

The award is made annually to the senior who, in the judgment of the undergraduate Deans, has made the greatest contribution to the welfare of the student body throughout his undergraduate years and who has shown outstanding qualities of character, leadership and responsibility.

It was established by the Caltech Board of Trustees in memory of Professor Hinrichs, faculty member and Dean of Upperclassmen from 1921 until his death in 1944.

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Olly Gardner came to Caltech after three years with the 29th Infantry Division. He spent 22 months in the European Theater as Staff Sergeant and combat squad leader. At Caltech he has been awarded three Honor Keys by ASCIT, for exceptionally effective participation in extracurricular activities. He has been secretary, representative and vice-president of ASCIT, headed the Board of Control which administers the Caltech honor system, and was a member of the ski team. He was also prominent in speech and debate, was a member of the Beavers, and served as a campus guide.

Cancer Research

THREE CALTECH RESEARCHERS, working under an American Cancer Society grant, have uncovered evidence which may link viruses to the spread of cancer in plants.

Dr. Guy Camus, Rockefeller Foundation Research Fellow in Biology, Dr. James Bonner, Professor of Biology, and Dr. Frits Went, Professor of Plant Physiology, working with sunflower plants, noted that when tissue was grafted from a tumorous to a normal plant, tumors grew at the site of the graft and spread vigorously to other areas. This raised the question of what agent carried the disease to the once healthy plant, then through it.

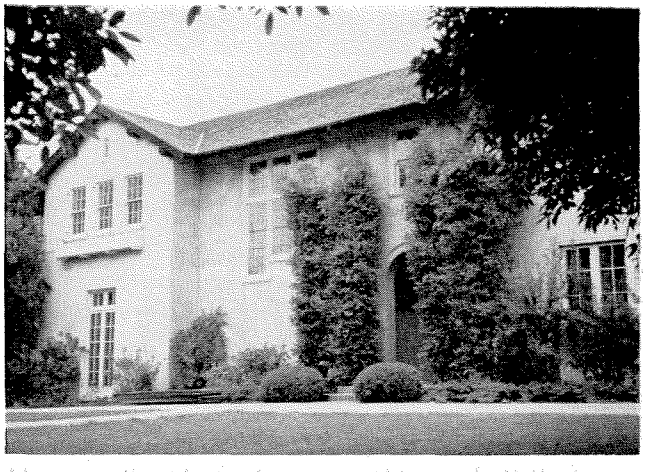
Further study indicated that the transmission phenomena followed the general laws of transmission of viruses, the smallest organisms known to science. Hence, the researchers set out on a biochemical virus hunt, tediously breaking plant tissues down into their component parts.

Ultimately they reached a stage at which they could study the plant proteins alone. These life essentials form a major portion of all living things, including the ultramicroscopic viruses.

Viruses differ, however, from normal cell material in the nature of their proteins. By the critical method of electrophoresis—passing an electric current through a concentrated mixture of protein—the scientists found a unique protein constituent in tumor tissue but not in normal tissue. Its chemical and physical characteristics —high molecular weight and high mobility in an electrical field—resembled those of a virus, though more work must be done before the constituent can be identified positively as such.

But whether it is a virus or not, the researchers say, it may act as a switch which sets an assembly line in motion, with a tumor as the end product. The agent does not necessarily cause tumors, but, in some way as yet undetermined, it appears to change the normal cell pattern. Normal cells cannot produce an essential growth hormone, indoleacetic acid. They depend on the plant buds for a regulated supply. But tumor cells acquire the ability to synthesize, or make their own indoleacetic acid and therefore grow in an uncontrolled manner.

Oliver H. Gardner (right), 1951 Hinrichs Award winner, and Paul Helfrey, getting set for Commencement.



The new President's house at 415 South Hill Avenue

President's House

LATE THIS MONTH Dr. L. A. DuBridge and his family will move into a new President's house at 415 South Hill Avenue, Pasadena, less than a block from the campus. The DuBridges' present home on Fairfield Circle was purchased by the Institute as temporary President's quarters in 1946—when Dr. DuBridge came to Caltech—until a house close to the campus became avilable.

The new President's house is situated on about an acre of ground, has a living room, library, dining room, kitchen and bedroom on the first floor, and four bedrooms and a study on the second.