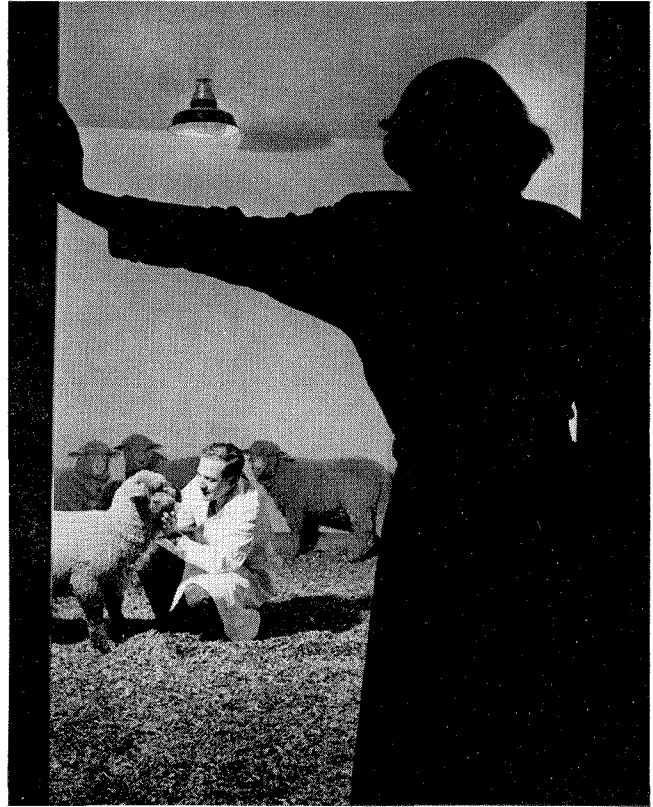




Girls meet hamsters as the Biology Division holds open house in its new laboratory annex on January 20.



Dr. Ray Owen inspects sheep in new Biology annex.

THE MONTH AT CALTECH

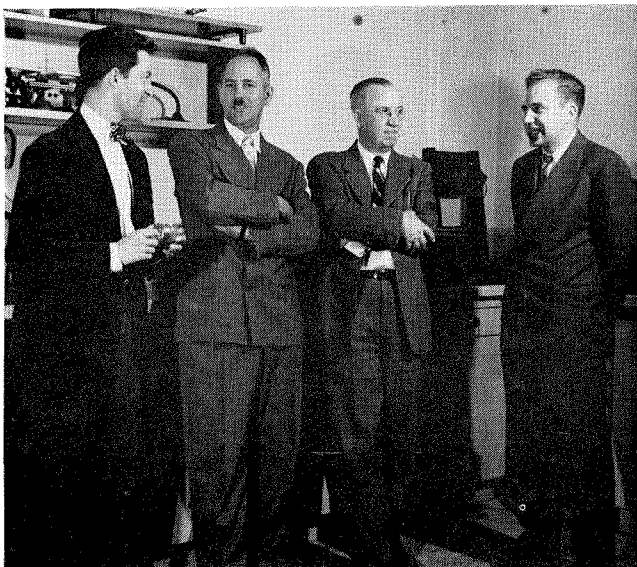
BIOLOGY ANNEX

CALTECH'S BIOLOGY DIVISION last month opened its new \$150,000 laboratory annex. The building combines facilities for housing experimental animals and for research on immunization against disease, blood group inheritance, cancer prevention and treatment, the biological basis of pneumonia and infantile paralysis, sexual fertilization, and the physiology of nerves.

Connected with the main biology building, the underground annex is so constructed that its roof, at ground level, furnishes auto-parking space. The annex is equipped with air-conditioning apparatus which gives it a complete change of air every three minutes. There are rooms for housing mice, rats, guinea pigs, sheep, rabbits, pigeons, hamsters, chickens and other animals used in research work. One room will eventually house a tank for marine animals.

Bright and shiny as a modern kitchen, the annex has some \$15,000 worth of cages, specially-designed to provide maximum comfort and cleanliness with a minimum of labor. Paper runs in large rolls beneath the rat and mouse cages, so that daily cleaning simply consists of pulling fresh paper through the cages. All walls are smooth and rounded at the corners so the rooms can be hosed down. Floors slope to central drains.

"We are seeking basic knowledge," says Dr. George W. Beadle, head of the Biology Division, "and the new annex is one of our tools. We probably won't discover anything sensational tomorrow, or the next day, or maybe not next year. But the information we gain, pooled with data compiled at other institutions, will bring us closer to comprehending the basic elements of life."



Dr. G. W. Beadle (second left) entertains at open house.

HONORS AND AWARDS

OF THE FIVE TOP HONORS awarded by the Institute of the Aeronautical Sciences at their annual meeting in January, two came to Caltech men:

Clark B. Millikan, Professor of Aeronautics, Acting Director of the Guggenheim Aeronautical Laboratory, Acting Chairman of the Jet Propulsion Laboratory, and Director of the Southern California Co-operative Wind Tunnel, was elected the 1948 American Honorary Fellow of the Institute, for "eminence in aeronautics." A past president and Fellow of the Institute, Dr. Millikan is also a Fellow of the Royal Aeronautical Society, London, and in 1948 received from the British Government the King's Medal for Service in the Cause of Freedom. He is currently serving on a number of committees of the National Military Establishment.

Allen E. Puckett, wind tunnel section chief at the Jet Propulsion Laboratory, won the 1948 Lawrence Sperry award, for "outstanding contributions to the design and development of supersonic wind tunnels." Puckett was associated with Dr. Theodore von Karman in the design of the 2½-inch supersonic wind tunnel at Caltech in 1941. This is believed to have been the first closed-circuit, continuously-operating high-Mach-number supersonic tunnel in the United States. He was also responsible for, and is now in charge of, the 12-inch supersonic wind tunnel at J.P.L., and of the 20-inch tunnel now under construction. He also advised extensively on the supersonic wind tunnels of the Ordnance Aerophysics Laboratory at Daingerfield, and of the Air Materiel Command at Wright Field.

It's getting so E & S can't go to press without checking the chemistry division for the latest honors awarded Chairman **Linus Pauling**. This month we got two: (1) the Indian Academy of Sciences has elected Dr. Pauling an honorary fellow; (2) the Academy of Sciences of the Institute of France has elected him a corresponding member. Though Pauling's work has recently been in the application of chemical methods to problems of biology and medicine, much of his earlier work was in the structure of minerals, and it is in the section of mineralogy that he has been elected to the French Academy. (Ed's note: Dr. Pauling barely got back from France in time to receive this one. He'd been over to get an honorary doctor's degree from the University of Paris).

CAMERA TO AFRICA

A STUDY OF CERTAIN TYPES of stars in the Milky Way, begun thirty years ago at Mt. Wilson, will be completed in the next three years in South Africa. The observatory is shipping its small 10-inch refractor telescope to the University of Michigan's Lamont-Hussey Observatory at Bloemfontein, for use in the study by U. of M. astronomers.

At Mt. Wilson the telescope—which is essentially a camera—has been used to locate planetary nebulae and emission Be stars in our own galaxy. Both of these objects are surrounded by a glowing mass of hydrogen. In the course of the study hundreds of thousands of stars have been photographed with red sensitive plates, to get the red line of hydrogen in the spectrum which makes identification possible. The number of known emission Be stars has increased, since the study began, from about 160 to more than 1,000; the number of known planetary nebulae has doubled, from about 130 to about 260. All of the Milky Way observable from

Mt. Wilson has now been surveyed for these rare types. The remaining portion, about one-fourth, will be scanned from the other side of the globe.

Planetary nebulae and Be stars are of special interest because they are continually changing. Unlike novae, or exploding stars, they change slowly; and their explosions, which occurred thousands of years ago, are believed to have been much less violent than those of the novae. Scientists think that these changes have some bearing on certain problems in physics, such as the origin of high velocities, and a possible relationship to nuclear energy.

ARTHUR PERRY BANTA

ARTHUR PERRY BANTA, 44-year-old Associate Professor of Sanitary Engineering, died of a heart attack at his home in Pasadena, January 23.

Professor Banta received his A.B. at Stanford University in 1926 and his M.S. at Caltech in 1928. After a ten-year period with various engineering firms, he returned to the campus to join the faculty as Assistant Professor of Engineering.

During the war Professor Banta served in the Army Corps of Engineers, as chief of the engineering planning section in the Pacific Theater. He was awarded the Bronze Star for this work. In 1945 he came back to Caltech.

Professor Banta was widely known in his field and received many professional honors, including the 1941 James Laurie Prize of the American Society of Civil Engineers. He was a trustee of the Neighborhood Church in Pasadena, an active member of the Pasadena Rotary, of the New Century Club, Sigma Xi, Tau Beta Pi, and the American Society of Civil Engineers. Surviving are his wife, Elizabeth Richardson Banta, and four children.

He was buried in Arlington National Cemetery.

ASTRONOMER ROYAL

SIR HAROLD SPENCER JONES, England's Astronomer Royal, and Director of the Greenwich Observatory will address the Caltech faculty and Associates on February 21 on "The Origin of the Solar System."

Sir Harold is scheduled to speak on four other occasions at Caltech—at seminars on February 23, March 2 and 9, and on March 4 he will address the undergraduate student body in assembly.

In addition to being Astronomer Royal, highest position in his field in Great Britain, Sir Harold is the immediate past president of the International Astronomical Union, a past president of the Royal Astronomical Society, the British Astronomical Society, and the British Horological Society. He was knighted in 1943, and, in that same year, was awarded the Gold Medal of the Royal Astronomical Society and of the Royal Society.

Of all Sir Harold's many astronomical contributions, probably the most important was his determination of the mean distance between the earth and sun, thereby establishing a fundamental unit in which all measurements of greater celestial distances are now expressed.

Sir Harold will give a number of addresses in the east and middle west before arriving in California. Here he will speak at the University of California in Los Angeles, the Griffith Planetarium and the Harvard Club of Southern California, as well as at Caltech.