

# C. I. T. NEWS

## PALOMAR MIRROR IS SAFELY MOVED

**A**FTER a two-day trip, the 200-inch Telescope Mirror arrived safely at Palomar Mountain from CalTech. The transfer was started when a truck and semi-trailer rolled out of the grinding shop at 3:30 in the morning of November 18, escorted by the California State Highway Patrol, Institute officials, and 50 cars full of press and radio representatives. Going inland, the cavalcade stopped at Escondido for the night, shifted gears into low the next morning for the grind up Mt. Palomar. The unloading was successful, and the mirror was deposited to be aluminized and attached to the telescope mounting.

The concave face of the huge disc — 3.75 inches in depth at the center — must now be coated with aluminum to create the necessary reflecting surface. A huge vacuum tank has been constructed at the Observatory to do this job.

Mounting the mirror, already installed in the cell in which it will ultimately be placed in the telescope tube, and testing of the entire telescope will follow. This will require several months, and the telescope cannot possibly be completed and ready from a programmed search of the heavens until late in the spring or early summer of 1948.

## ZONING VARIANCE MAKES WAY FOR NEW LABORATORY

**T**HE long-anticipated Earhart Laboratory appears now well on the way toward realization following a Pasadena City Zoning Commission ruling granting the Institute a zoning variance for its property at San Pasqual Street and Michigan Avenue. This new air-

**T**HE Institute would certainly be remiss in its duties if it failed to call to the attention of all alumni the excellent assistance it received from R. M. "Bob" Lehman '31, in obtaining a zoning variance from the City so that the Earhart Laboratory could be built. Lehman did an outstanding public relations job for the Institute when he, and other persons whom he paid out of his own pocket, circulated a petition in the general area of the laboratory location seeking signatures of property owners stating they approved granting of such a variance. These petitions formed the basis upon which the entire Institute presentation was made to the Zoning Committee. It was an outstanding contribution by an alumnus and gains added importance by the fact that it was his idea from the beginning.

L. A. DuBridge  
President

conditioned plant physiology laboratory, which will be the only one of its kind in the world, is to be constructed on the same property where the present small greenhouse and laboratory is located. Funds are being made available by the Earhart Foundation, and cost of the addition will be in excess of \$200,000.

Completely air-conditioned and temperature controlled, the Laboratory will enable not only Institute biologists, but also visiting scientists to work out in detail plant physiological discoveries made in the present small laboratory. Dr. Frits W. Went, professor of plant physiology, who will direct the Laboratory, will through accurate control of individual factors, be able to manufacture his own climate through absolute control of temperature, humidity, light, wind or gas content of the air.

An understanding of the responses of plants to climate will make possible the determination of ideal conditions for growth and production of any kind of plant. It will enable scientists to eliminate the guess-work in developing and discovering the types of plants that will do best in any given area. With records which are available as to the temperature, humidity, amount of daylight and darkness of a specific location, Dr. Went and his associates will be able to duplicate those conditions in the Laboratory.

Other problems to be attacked include study of such fundamentals as "What makes a plant grow?" "What makes a plant flower and set fruit?" "What are the effects of wind and rain on the mineral and water uptake of plants?" It was in the small existing laboratory that much of the work on plant hormones, which influence fruit flowering and fruit set, was developed — and that is only a start in the right direction.

## RESEARCH ORGANIZATION HONORS DUBRIDGE

**A** 1947 Award of the Research Corporation of New York for outstanding scientific achievement was presented to Dr. Lee A. DuBridge, at a dinner in his honor November 3 in Los Angeles. Dr. DuBridge was chosen to receive this award, which carried with it a plaque and a \$2500 honorarium, "for his outstanding scientific achievements in directing the Radiation Laboratory of the Office of Scientific Research and Development in the field of microwave radar research, development and application to national defense," Dr. Joseph W. Barker, Research Corporation president, stated.

Chosen in 1940 to head the Radiation Laboratory at the Massachusetts Institute of Technology, Dr. DuBridge served as its director until January, 1946. Out of research and development work done there during the war came the "know how" in microwave radar that enabled the United States to lead the world in its military applications. Four months after leaving the Radiation Laboratory and returning to his prewar position at the University of Rochester, Dr. DuBridge was called to the presidency of the California Institute. Twenty-eight volumes reporting work done at the Radiation Laboratory under Dr. DuBridge's direction are now being published, and are being heralded as the "bible" for all those working in that field.

The Research Corporation is an organization which distributes all its net earnings through grants for the advancement of science. Organized in 1912 through the foresight of Dr. Frederick Gardner Cottrell, who assigned to the Corporation valuable patent rights in the field of electrical precipitation, it makes grants-in-aid to support research in the physical sciences, mathematics and engineering to many colleges and universities. Other public spirited inventors have assigned valuable patent rights to the Corporation which increase its net earnings. In one of these, Vitamin B<sub>1</sub> synthesis, Dr. Edwin R. Buchman, now of the staff of California Institute of Technology, was a co-discoverer and donor with Dr. R. R. Williams and Mr. R. E. Water-

man. A large part of the net earnings of this patent supports research in the combat of dietary deficiency diseases.

Three professors of the California Institute, Dr. D. M. Yost and Dr. E. R. Buchman, chemistry, and Dr. G. D. McCann, electrical engineering, are currently doing work under grants from Research Foundation.

#### MILLIKAN TO SPEAK AT FRIDAY EVENING LECTURE

**F**RIDAY Evening Demonstration Lectures were resumed in November. This series, which has been made available to the public for the past 20 years, with the exception of interruption during the war, is again held in Room 201, Norman Bridge Laboratory of Physics at 7:30 p.m. This season's lecturers will deal with recent developments in the fields of physics, chemistry, astronomy, mathematics, biology, geology, paleontology, meteorology, aeronautics, hydraulics and electrical, mechanical and civil engineering.

Dr. Robert A. Millikan, professor emeritus of physics, will speak on "The Jubilee of the Electron," December 5.

"Blood and Heridity" will be discussed by Dr. R. D. Owen, associate professor of biology, on December 12.

#### FOREIGN STUDENTS HAVE OWN ORGANIZATION

**S**TUDENTS from 40 foreign lands are among the 1320 men who have completed registration at the Institute for the 1947-48 school year. The number of foreign lands represented on the campus is considerably in excess of last year when only 24 countries had students at the Institute.

The Inter-Nations Association, comprising CalTech students from all 40 foreign lands and this country, held a get-acquainted party Saturday night, November 8, at the Athenaeum. President of the Association is Patrick Michael Quinlan of Ireland, and Mrs. Jerome Seitz, now of Pasadena, but formerly of Brazil, is social chairman. Miss Esther Gilbert is membership chairman. Professor Horace N. Gilbert, chairman of the faculty committee on foreign students, addressed the gathering as did also Dudley C. Monk, head of the United Nations organization in Pasadena and a member of the association. This was the first of a number of programs planned for the year.

Countries in addition to the United States which were represented at the party by students included Cuba, India, Malaya, Iraq, Brazil, Turkey, Egypt, Palestine, Puerto Rico, France, China, Canada, Austria, Norway, Belgium, Switzerland, Colombia, Lebanon, Hungary, Holland, England, Mexico, Italy, Australia, Sweden, Honduras, Wales, Argentina, Iran, Germany, Burma, Peru, Ireland El Salvador, Siam, South Africa, Uruguay, Czechoslovakia, and Yugoslavia.

#### INSTITUTE CHEMISTS DEVELOP NEW ANTIMALARIAL DRUG

**E**XTRACTION OF two antimalarial chemicals, one of them 100 times as powerful as quinine, was announced recently by Dr. J. B. Koepfli, J. F. Mead and John A. Brockman Jr., of the Institute Chemistry Department, in a report to the *Journal of the American Chemical Society*. The chemicals were obtained from the leaves and roots of a plant long known to the Chinese as having antimalarial properties. In China, its

roots are called **ch'ang shan**. The botanical name for the plant is *Dichroa febrifuga*.

**Febrifugine and isofebrifugine** are names the chemists give to the the new antimalarials. The names, as well as the last name of the plant, come from two Latin words meaning fever-reducing. Febrifuge is an old medical term for any fever-reducing remedy.

Tested against malaria in ducks, **febrifugine** was about 100 times as active as quinine. **Isofebrifugine** has only slight activity against duck malaria. Koepfli, Mead and Brockman are now exploring the possibility that leaves of the plant may contain still another antimalarial chemical.

#### J.P.L.'S DUWEZ APPOINTED M.E. PROFESSOR

**D**R. POL DUWEZ of the Jet Propulsion Laboratory was appointed associate professor of mechanical engineering at the Institute, effective September 1. Professor Duwez came to CalTech in 1941 from Belgium as a special Belgian-American Education Foundation student on research work. During the war he was concerned with research work conducted at the Institute for both the OSRD and the Navy and since then has been connected with the Jet Propulsion Laboratory doing research and development work with both ceramics and metals in the field of jet propulsion.

#### SERVICE LEAGUE NOW OPERATING

**C**ALIFORNIA Tech students, their wives and their babies are getting unprecedented attention these days as a result of the newly-formed Service League, which completed its formal organization late in October. Patterned somewhat after the Stanford University Mother's Club, organization of the League commenced last spring with parents of students, friends of the Institute, and faculty members meeting with school officials to present the proposed student welfare program. With enthusiastic approval of President DuBridge and other school officials, a specific program was laid out and organization work started.

Three major projects of the League are already well along to realization. First is the establishment of a new CalTech Health Center on the campus. A war surplus temporary building which had previously been a sick bay was obtained by the Institute and is now approaching completion on the campus. It will have six beds, 24-hour nursing service, and a full-time physician. Meals will be prepared in the kitchen of the student houses. The League is not only decorating but also helping otherwise to furnish this building.

With convalescent care of students arranged, the League next turned to a program of welfare aid for students' wives and children. Out of this came a decision to do two things — establish a well-baby clinic and also a baby furniture and equipment pool. Both are now in their early stages of operation. The well-baby clinic is held one afternoon each week by Dr. Belle D. Poole, supervisor for the Southern California District of the State Maternal and Child Hygiene Department. Co-operating with her in conducting the clinic is the City of Pasadena Health Department.

Bassinets, bathinettes, play pens, baby scales and other types of infant equipment are already being contributed by members and others to establish a pool of such equipment for loan to married students with families. Mrs. Archibald Young, Pasadena, is chairman of the committee in charge of this project.