

# THE SUMMER AT CALTECH



*Linus Pauling*

## Mental Disease

UNDER THE DIRECTION of Linus Pauling, chairman of the Division of Chemistry and Chemical Engineering, a team of scientists has now begun to explore the molecular chemistry of mental disease at the Institute. The research is being underwritten by a five-year \$450,000 grant from the Ford Foundation.

The basis for the new program, according to Dr. Pauling, is "the probability that many cases of mental deficiency—perhaps most of them—are the result of gene-controlled mental abnormalities. We believe that significant progress can be made in the attack on mental disease by a program of fundamental research employing the most powerful techniques of modern chemistry in an effort to understand the causes and workings of certain abnormal molecules."

In 1949 Dr. Pauling and his associates traced the cause of the hereditary disease sickle-cell anemia back to its basic chemical cause—a defective molecule in the blood.

"Our major emphasis will be on basic research," says Dr. Pauling, "but we hope to develop ideas that will provide the basis of clinical research on the medical problem of mental retardation."

Richard Morgan, of the California State Department of Mental Hygiene, has pointed out that the cost of this research program would be repaid if it were to lead to discoveries that would reduce by only 50 the number of hospital beds (now about 200,000) that are used for mentally retarded patients in the United States.

## Graduate Dean

WILLIAM N. LACEY, professor of chemical engineering, who has been dean of graduate studies at Caltech for the past ten years, asked to be relieved of his administrative post this summer in order to devote full time to teaching and research in chemical engineering.

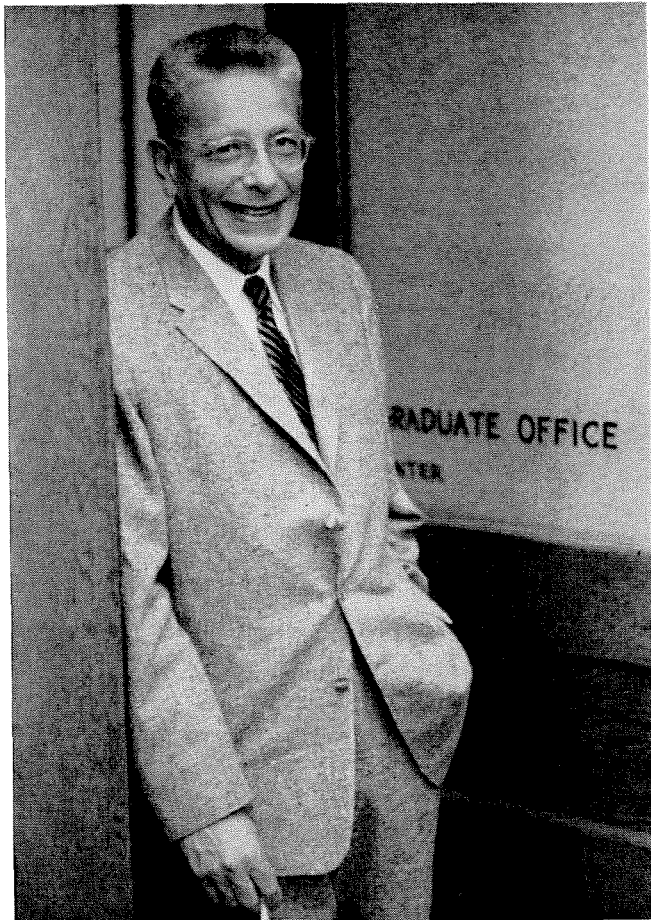
H. F. Bohnenblust, professor of mathematics at Caltech for the past ten years, was therefore appointed new dean of graduate studies on July 1. Dr. Bohnenblust, a native of Switzerland, received his BS in 1928 at the Federal Institute of Technology in Zurich and his PhD at Princeton in 1931.

A graduate of Stanford University, Dr. Lacey joined the Caltech teaching staff in 1916 and became full professor of chemical engineering in 1931. He has won wide recognition for his investigations of the properties and behavior of hydrocarbons and has also exerted great influence on the teaching of chemical engineering, through an approach which emphasizes thorough grounding in physical chemistry and mathematics.

## Faculty Changes

NEW MEMBERS of the Institute's staff of instruction and research for 1956-57 include:

*Charles A. Barnes*, senior research fellow in physics, from the University of British Columbia in Canada. He received his BA from McMaster University in 1943, his MA from the University of Toronto in 1944 and his PhD from Cambridge University in 1950.



*H. F. Bohnenblust, new dean of graduate studies*

*Arthur Code*, associate professor of astronomy and staff member of the Mount Wilson and Palomar Observatories, from the University of Wisconsin, where he has been assistant professor of astronomy since 1953. Dr. Code received his MS in 1947 and his PhD in 1950 from the University of Chicago.

*Captain Arthur S. Cooper*, assistant professor of air science and tactics (ROTC), from the University of Southern California, where he received his BS in 1950. Captain Cooper has been assistant professor of air science at USC since 1953.

*Howard M. Dintzis*, assistant professor of chemistry, from the Cavendish Laboratory in England, where he has been on a National Science Foundation grant for the past year. Dr. Dintzis received his BS from UCLA in 1948 and his PhD from Harvard University in 1953.

*Robert Finn*, associate professor of mathematics, from USC, where he has been assistant professor of mathematics since 1954. Dr. Finn received his BS from Rensselaer Polytechnic Institute in 1943 and his PhD from Syracuse University in 1951.

*Harold Fowler*, visiting professor of history, from William and Mary College, where he is a professor of history. Dr. Fowler received his AB from Dartmouth

College in 1928, and his MA and PhD degrees from Harvard in 1930 and 1934 respectively.

*Basil Gordon*, instructor in mathematics, who received his PhD from Caltech in June.

*Harold S. Johnston*, associate professor of chemistry, from Stanford University, where he has been associate professor of chemistry since 1953. He received his PhD from Caltech in 1948.

*Leite Lopes*, senior research fellow in physics, from the University of Brazil, where he is professor of theoretical physics. Dr. Lopes, who is secretary for the International Conference for Peaceful Use of Atomic Energy, received his PhD at Princeton in 1946.

*Harden N. McConnell*, assistant professor of physics and chemistry, who received his PhD from Caltech in 1951. For the past four years he has been a chemist at the Shell Development Company in Emeryville, Calif.

*Peter M. Miller*, assistant director of admissions, from the Educational Testing Service in Princeton, New Jersey. Dr. Miller received his AB in 1934 and his PhD in 1939 from Princeton University.

*Y. Miyake*, visiting professor of geology, from the Meteorological Research Institute in Tokyo, where he has been chief of the geochemical laboratory since 1946. Dr. Miyake, who received his PhD from Tokyo University in 1940, is known for his extensive research on the effects of atomic explosions.

*W. Barclay Ray*, assistant professor of geology, who received his BS from Caltech in 1952 and his PhD in June. He began his new duties by taking charge of the summer geology camp in New Mexico.

The following promotions have been made in the Caltech faculty for 1956-57:

TO PROFESSOR EMERITUS:

*Stuart J. Bates*—Physical Chemistry  
*James E. Bell*—Chemistry  
*Robert L. Daugherty*—Mechanical Engineering  
*William W. Michael*—Civil Engineering

TO PROFESSOR:

*Leverett Davis, Jr.*—Theoretical Physics  
*Charles R. DePrima*—Applied Mechanics  
*Murray Gell-Mann*—Theoretical Physics  
*Edward B. Lewis*—Biology  
*Jack E. McKee*—Sanitary Engineering

TO RESEARCH ASSOCIATE:

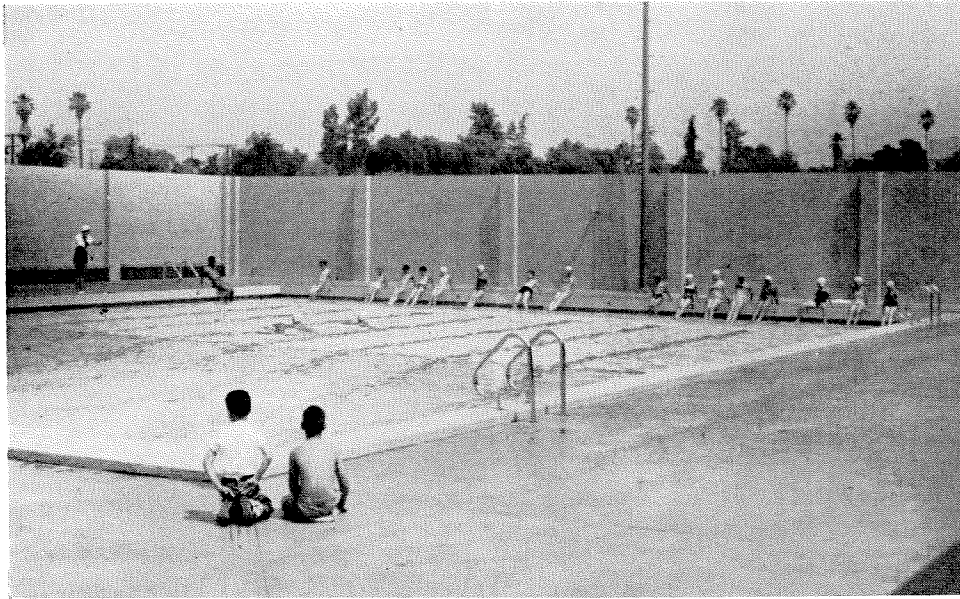
*Walter Schroeder*—Chemistry  
*Jerome Vinograd*—Chemistry

TO ASSOCIATE PROFESSOR:

*Tom M. Apostol*—Mathematics  
*F. S. Buffington*—Mechanical Engineering  
*James C. Davies*—Political Science  
*Paul Longwell*—Chemical Engineering  
*Harold Lurie*—Applied Mechanics  
*Henry Dan Piper*—English

TO SENIOR RESEARCH FELLOW:

*Harry Rubin*—Biology  
*John M. Teem*—Physics



*Summer swimming classes started at 9 every weekday morning; pupils started at about 2 years.*

**TO ASSISTANT PROFESSOR:**

*Donald E. Coles—Aeronautics  
Roy W. Gould—Electrical Engineering  
Frank L. Spitzer—Mathematics*

**ON LEAVE OF ABSENCE:**

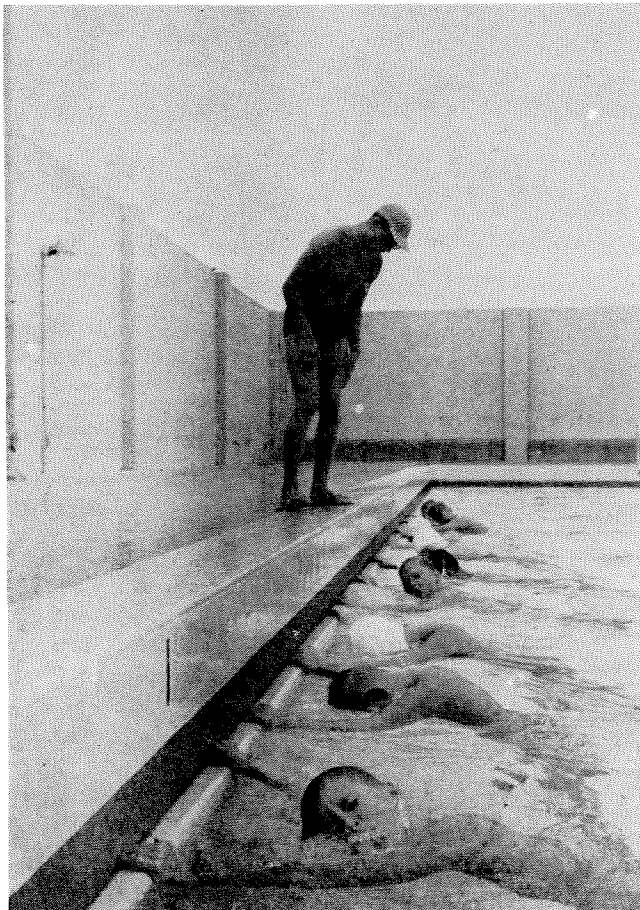
*Julian D. Cole, associate professor of aeronautics and*

*applied mechanics, in England for one year with the Office of Naval Research.*

*Norman Davidson, associate professor of chemistry, at Harvard University in Cambridge, Mass., as visiting professor of chemistry until June, 1957.*

*David Elliott, associate professor of history, for one year in England and on the continent, studying international relations on a Ford Foundation Fellowship.*

*Arthur Erdelyi, professor of mathematics, for one year as visiting professor of applied mathematics at the Hebrew University in Jerusalem.*



*Pool supervisor—and Caltech swimming coach—Web Emery worked with more than 250 dedicated summer pupils.*

## **Summer in the Alumni Pool**

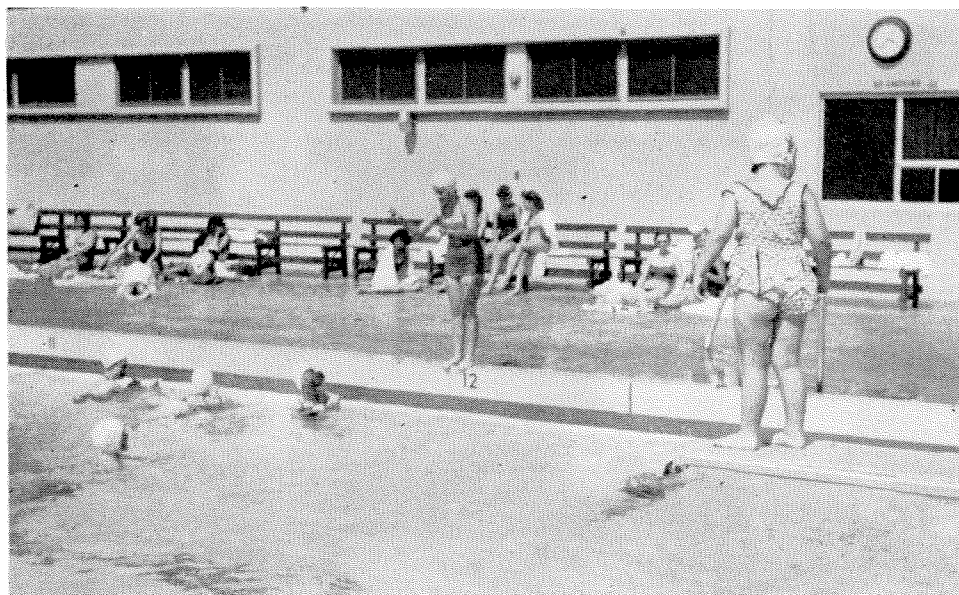
THE CALTECH CAMPUS used to be a pretty drowsy spot after the student body took off for the summer vacation, but since the opening of the Alumni Pool last year you'd hardly recognize the old place.

During the summer the pool is open to all employees of Caltech, the Jet Propulsion Lab and the Cooperative Wind Tunnel, and to all students and alumni. About 1,000 family admissions were sold this summer (at \$30 for the season), and more than 22,000 single admissions were paid during the 12-week program.

The summer program starts about the time most kids are getting out of school. Instruction begins at 9 in the morning, when the competitive swimmers work out, and this summer there were about 15 in competition for the Caltech Swim Club, including a couple of boys about 16 and two girls who were only 6 and 7.

Regular classes get under way at 10—and there is an advanced, an intermediate and two beginners' groups. While the youngsters are in the water, special classes for mothers and synchronized swimming instruction for those who feel up to some exercise, are going on, too. Diving classes are held in the afternoon. During the week the pool is open for recreational swimming from

*Mothers discovered that the pool was a great place to leave the youngsters while shopping.*



1 p.m. to 9:30 at night; on weekends it's afternoons only.

This summer the pool staff consisted of two instructors and two lifeguards. Caltech's swimming coach, Warren (Web) Emery, from the University of Nebraska (which he left because it snows there), was pool supervisor and taught the kids. Mrs. Jamalea Corre taught the mothers. The two lifeguards were Tech students who found that sun-bathing pays better than soldering, drafting, surveying or whatever it is that Joe-Average-Techman does with his summer.

Twice during the summer, water shows were held to give the kids and their mothers a chance to show what they could do. There were races, exhibition and comedy diving, and, at the last show, two sets of sisters who did a synchronized swimming routine called "Waltzing Kittens."

All in all, the summer was a howling success. Mothers found it was a good place to leave the kids while shopping—and even that it was a good place to give birthday parties. There were weekends when it looked like Coney Island around the pool, and a few foggy days when it was as desolate as a fog-bound island off the coast of Maine.

Only two things were really wrong with the pool this summer (speaking from a lifeguard's perch)—the lifeguard tower was too high for conversation with the customers—and there were far too few Caltech daughters between the ages of 18 to 21.

As further proof that the *whole* Caltech community is benefiting from the Alumni Pool—during its first complete season under the skillful coaching of Web Emery, the varsity swimming team took the conference championship; since the pool opened, every school record has been broken; and the Caltech team last year tied for the water polo championship, losing only to Oxy. What's more, one of our swimmers was in the Olympic trials.

Starting the school year off this fall, the varsity

water polo team beat the alumni in the last 30 seconds of play in a very close game, 8-7. This occurred on the day of another unrelated event—the Caltech football team beat Cal Baptist, 67-0.

—Doug Carmichael '59



*Jamalea Corre taught synchronized swimming routines to mothers while youngsters took lessons from Coach Emery.*