

CALTECH NEWS



PUBLISHED FOR ALUMNI AND FRIENDS OF THE CALIFORNIA INSTITUTE OF TECHNOLOGY

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Delbrück, Gell-Mann

Two More Nobel Prizes

Max Delbrück was the first of two Caltech professors to win a Nobel Prize last month. On October 15, Delbrück, with two other biologists, Salvador Luria and Alfred Hershey, received the \$72,800 1969 Nobel Prize in physiology and medicine for studies of the replication mechanism and genetic structure of viruses. Two weeks earlier Delbrück and Luria had received the Louisa Gross Horwitz Award for essentially the same work. Delbrück donated his half of that \$25,000 to Amnesty International, an organization working to free political prisoners.

On October 30th, the morning of Harold Brown's inauguration, Caltech's

Robert Millikan professor of theoretical physics, Murray Gell-Mann, won the Nobel Prize in physics for his "contributions and discoveries concerning the classification of elementary particles and their interactions." Gell-Mann, a faculty member since 1955, suggested the eight-fold-way theory in 1961, and more recently proposed the "quark" as an elementary particle.

Delbrück and Gell-Mann bring to fourteen the number of Nobel Prizes won by Caltech alumni and faculty members: eight awards in physics; three in medicine; two in chemistry; and one, Linus Pauling's second, for peace.



INAUGURATION

Harold Brown receives the doctoral hood of Robert A. Millikan during the inaugural ceremonies held on Beckman Mall October 30. Forty-five hundred people, including 450 delegates from academic institutions and learned societies, attended or took part in the Inauguration program. After the morning ceremonies, there was a luncheon, where former president Lee A. DuBridge was the guest speaker; a faculty reception honoring Dr. and Mrs. Brown; a twilight buffet presented by Caltech students; and a concert by pop singers, The Harpers Bizarre, in Beckman Auditorium—all in all, sufficient activities to commemorate Brown's inauguration as the new president.

Coming Soon: Coeducation At Caltech

Some traditions die hard, but as Caltech's oldest enters its last year, there is little distress on campus. Beginning next spring the faculty committee on freshman admissions will be interviewing bright young ladies along with the men, and in the fall about 25 women—freshmen and transfers—are expected to enter the Institute. They will be followed in 1971 by another 25, and by 1973 there should be about 70 women undergraduates.

Caltech's trustees approved the admission of women "in principle" a year ago, but wanted to see a definitive plan before giving final approval. On October 6, 1969, they saw the plan and gave their unanimous consent. Surprisingly, women undergraduates can be integrated into the all-male community with little difficulty—at least on paper.

They will not live in a separate dormitory as was contemplated originally, but are taking over adjoining sections of Dabney and Blacker Houses. Each of the women will be a member of one of the two houses. Their quarters are going to be refurbished next summer as the first step in the eventual rehabilitation of all four old student houses.

The coeds will be counseled by the usual advisers and deans, and a woman adviser will probably be hired part-time for personal and career counseling. In the athletic department the women will displace the visiting teams in their locker rooms; Caltech's opponents will have to share the main locker room.

Meanwhile, the admissions office is busy advising high schools all over the world that the last barrier is down; Caltech is out to get its best freshman class ever in 1970.

WHAT'S NEW THIS FALL

Faculty committees have begun the search for successors to three Institute administrators. Robert Bacher, 64, provost since 1962; Carl Anderson, 64, chairman of the division of physics, mathematics and astronomy since 1962; and Hallett Smith, 62, chairman of the division of humanities and social sciences since 1949, are all looking toward retirement.

This year will probably be Bacher's last as provost. Anderson, due to retire from the faculty in 1971, will give up his administrative duties as soon as his successor can take over. Smith, whose formal retirement from the faculty is still three years away, will also step down as division chairman when the new person is available.

For the first time in its history, Caltech has incorporated an extensive art program into its extracurricular activities. Lukas van Vuuren, the Institute's new

artist-in-residence, is heading a three-fold program open to interested students and staff.

Housed in the vacated Earhart Plant Research Laboratory, classes are currently being given by Van Vuuren and artist Paul Darrow in drawing, painting, sculpture, and printmaking. In addition to the studio classes, Van Vuuren and the faculty committee on art supervise the acquisitions and commissions program as well as the scheduling of student and professional art exhibits. This year's first exhibit opened October 23 in Dabney Lounge. On exhibit were the sculpture of Jack Zajac and the drawings and paintings of his wife, Corda.

Harry B. Gray, Caltech professor of chemistry, will receive the American Chemistry Society's \$2,000 Award in Pure Chemistry, sponsored by the Alpha Chi Sigma Fraternity, at the annual

meeting next May. Gray is honored for study, done before the age of 35, of complex compounds containing such elements as rhodium, palladium, and platinum.

Ian Campbell, research associate in geology, is the recipient of the 1969 American Federation of Mineralogical Societies Foundation Award.

Hans W. Liepmann, professor of aeronautics, has been awarded the 1969 Worcester Reed Warner Medal of the American Society of Mechanical Engineers for his contributions in gas dynamics and turbulence.

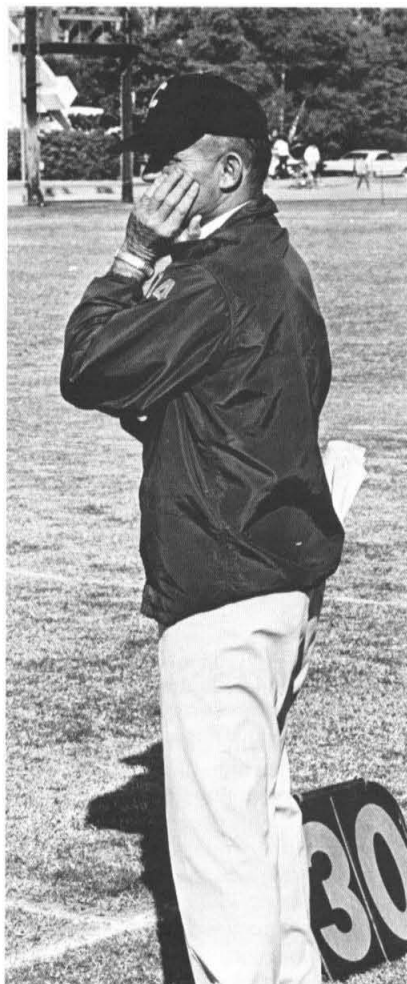
Jerome Vinograd, professor of chemistry at Caltech since 1965, will receive the 1969 American Chemical Society \$2,000 Award in Colloid Chemistry

Continued on page 2



Second Annual Homecoming

The football game between Caltech and Pomona College on October 18 evoked less than wild enthusiasm from the spectators as the Beavers fell behind. The final score: Pomona 41, Caltech 0.



25 YEARS LATER...

Over the weekend of October 18 the class of 1944 held its first reunion at Caltech in 25 years. The activities began Friday afternoon with a campus tour and continued through the evening with a cocktail and dinner party in the Athenaeum during which Harry Sigworth, member of the board of directors, gave a slide presentation of old class pictures and Provost Robert Bacher spoke about "Caltech Today." Tway Andrews was unanimously reelected class president.

On Saturday all alumni and families were invited to bring mugs and sack lunches for a pre-game picnic held on Caltech's athletic field. The football game against Pomona College (Caltech lost 41-0) also marked Caltech's second annual homecoming weekend.

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Meetings: Engineers' Club, 16th floor, Hong Kong Bank Bldg., San Francisco. Informal luncheons every Thursday at 11:45 A.M. Contact Mr. Sigworth, 434-7700, Ext. 2918, on Thursday morning for reservations.

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GUNS, BUTTER, OR BOTH

Economist Roger Noll Speculates on the Politics of Our Vietnam War Economy

Roger Noll, Caltech associate professor of economics, branded as fallacious the widespread idea that the end of the Vietnam war will mean increased attention to social problems at home; or that the richer we become the more we will be inclined to solve our social problems.

Speaking before a Caltech YMCA luncheon forum on October 29, Noll said that the United States could afford to fight another Vietnam every year. The real level of the gross national product is rising 40 to 50 billion dollars a year, significantly more than the 25 to 30 billion dollars cost of the war.

Noll pointed out that war may actually improve the conditions of the poor. The poor are more likely to serve in the military, he added, and the armed forces provide more security and opportunity for advancement than most other occupations open to them. Wartime also

means expanded employment of low-skilled workers in war-allied industries as well as a greater national tolerance for the inflation that normally accompanies the very low unemployment rates that occur when low-skilled workers are employed.

Noll sees the rest of this century as an era in which middle class, affluent, white suburbanites will be the political majority, and he cited President Nixon's election last year as the beginning of such a trend. This means, he thinks, that some currently pressing social problems will remain unsolved. For instance, school integration faces a rough time because most members of the white middle class believe it hurts their children's education. He sees public service employment taking the place of welfare practices as we know them because it can provide services valued by the affluent suburbanites.

Noll dismissed "the mistaken notion that the richer we get the more we'll solve our social problems." Those who control government are unlikely to make large expenditures on programs from which they derive little or no benefit. As those who attain a high standard of affluence begin to constitute a political majority, government will be less inclined to help the poor unless such assistance will benefit the affluent. Consequently, the affluent will support programs of education, pollution control, or public transportation, rather than such items as low-income housing, urban renewal, compensatory education, or a negative income tax.

Placement Assistance To Caltech Alumni

The Caltech Placement Service may be of assistance to you in one of the following ways:

- (1) Help you when you become unemployed or need to change employment.
- (2) Inform you of possible opportunities from time to time.

This service is provided to alumni by the Institute. A fee or charge is not involved.

If you wish to avail yourself of this service, fill in and mail the following form:

To: Caltech Placement Service
California Institute of Technology
Pasadena, California 91109

Please send me: (Check one)

- ☐ An application for placement assistance
- ☐ A form indicating a desire to keep watch of opportunities although I am not contemplating a change.

Name

Degree(s)..... Year(s).....

Address

CALTECH NEWS

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ALUMNI MEETINGS

The newly formed San Joaquin-Mojave chapter of Caltech's Alumni Association—distinguished for the fact that it incorporates the smallest number of alumni into the largest geographical chapter area—held its first meeting Friday, October 17, in Bakersfield. The 45 alumni who attended heard geology division chairman Eugene Shoemaker discuss scientific results from Apollo 11.

Another chapter meeting was held October 26 in San Diego, only the third meeting there in 32 years. The day began with 110 alumni and families attending a football game between Caltech and the University of San Diego. (Caltech lost 20-6.) Afterwards they held a cocktail party and dinner dance. David Wilford, '48, MS '51, is chapter president.

Membership in the Caltech Alumni Association (\$10 a year) brings:

- Engineering and Science magazine seven times a year
- Alumni Directory
- Athenaeum membership privilege

Coming Caltech Events

Sunday, Nov. 23, 8:15 p.m. Dabney *DUO HARPISTS*. Music by Bach, De Falla, Philipp, Infante, and Ravel. Free.

Monday, Nov. 24, 8:30 p.m. Beckman *THE AFRICAN HERITAGE OF THE BLACK MAN*. Basil Davidson, visiting lecturer in African studies. Caltech Lecture Series. Free.

Wednesday, Dec. 3, 8:30 p.m. Beckman *NANA MOUSKOURI*. Greek balladeer of folk art songs and pop traditional melodies, accompanied by The Athenians. \$4-3-2.

Friday, Dec. 5, 8:30 p.m. Beckman *THE HENRY MILLER ODYSSEY*. Oscar winner Robert Snyder's film documentary of "a diabolically truthful man." \$3-2.

Sunday, Dec. 7, 8:15 p.m. Dabney *STAFFORD TRIO*. Piano, viola, and clarinet music by Mozart, Schumann, Mendelssohn-Bartholdy, and Poulenc. Free.

DATE CHANGE

The date of the Alumni Association's annual seminar day has been changed from Saturday, May 9, to Saturday, May 16.

Faculty and Administrative Changes 1969

ADMINISTRATION
Francis H. Clauser—*chairman of the division of engineering and applied science and Clark Blanchard Millikan professor of aeronautics*
William H. Corcoran—*vice president for institute relations*
Robert A. Huttenback—*dean of students*
Hardy C. Martel—*executive assistant to the president*
Cornelius J. Pings—*executive officer for chemical engineering*
Eugene M. Shoemaker—*chairman of the division of geological sciences*
David R. Smith—*master of student houses*
T. Foster Strong—*dean of freshmen, emeritus*
David S. Wood—*associate dean of students*

PROMOTIONS
To Professor Emeritus:
Paul Bowerman—modern languages
Horace N. Gilbert—business economics

To Professor:
Charles E. Bures—philosophy
Peter Goldreich—planetary science and astronomy
James J. Morgan—environmental health engineering
Thayer Scudder—anthropology
Felix Strumwasser—biology
Hugh P. Taylor—geology

To Associate Professor:
Barry C. Barish—physics
Wolfgang H. Knauss—aeronautics
Basil Vincent McKoy—theoretical chemistry
Roger G. Noll—economics
Charles W. Peck—physics
Michael A. Raftery—chemical biology
Robert A. Rosenstone—history
Frederick H. Shair—chemical engineering
Robert D. Wayne—German

To Senior Research Fellow:
Bozena H. Dostert—linguistics
Evelyn Lee-Teng—biology
Chang-chyi Tsuei—materials science
Johannes G. Vanderleeden—physics

To Assistant Professor:
Jesse L. Beauchamp—chemistry
Robert G. Bergman—chemistry
Michael R. Dohan—economics

NEW FACULTY MEMBERS
Professors:
James E. Mercereau—physics, from research associate, Caltech
James Olds—biology, from the University of Michigan

Associate Professors:
Jack R. Jopikii—theoretical physics, from the Fermi Institute for Nuclear Studies at the University of Chicago

Senior Research Fellows:
David S. Dennison—biology, from Dartmouth College
Romilio T. Espejo—biology, from the University of Chile
Robert W. Meech—biology, from the Columbia University College of Surgeons and Physicians
Yorikiyo Nagashima—physics, from the University of Rochester
Marianne Olds—biology, from the University of Michigan
Justin J. Rennilson—planetary science, from JPL
Akira Shima—engineering science, from Tohoku University, Japan

Assistant Professors:
Robert H. Bates—political science, from Massachusetts Institute of Technology
Gordon L. Harris—aeronautics, from senior research fellow at Caltech
Jenjoy LaBelle—English, from the University of California at San Diego
Frank J. Sciulli—physics, from research fellow at Caltech
James M. Varah—applied mathematics, from the University of Wisconsin
Robert W. Vaughan—chemical engineering, from JPL as a member of the United States Army

ON LEAVE OF ABSENCE
John N. Bahcall—*associate professor of theoretical physics; to the Institute for Advanced Study, Princeton, New Jersey*
William R. Cozart—*assistant professor of English; to write a book on Chaucer and 14th century literature*
Sheldon K. Friedlander—*professor of chemistry and environmental engineering; to visit European laboratories and continue work in fields of air pollution, aerosol physics, and environmental science*
Frederick C. Lindvall—*professor of electrical and mechanical engineering; to serve as vice president, engineering, for Deere and Company of Moline, Illinois*
Marc-Aurele Nicolet—*associate professor of electrical engineering; to the University of Basel, Switzerland, on a visiting professorship*
Robert A. Rosenstone—*associate professor of history; to write a book on John Reed and his times*

RESIGNATIONS
James N. Brune—*associate professor of geophysics; to Scripps Institute of Oceanography in La Jolla, California*
Julian D. Cole—*professor of applied mathematics; to the University of California at San Diego, La Jolla*
Paul C. Eaton—*as dean of students. He continues as an associate professor of English, on leave this fall*
Bruce A. Sherwood—*assistant professor of physics; to Hughes Aircraft Company*
John R. Weir—*associate professor of psychology*

ALUMNI ASSOCIATION
CALIFORNIA INSTITUTE OF TECHNOLOGY
Pasadena, California
BALANCE SHEET
June 30, 1969

ASSETS			
Cash on Hand and in Bank			\$ 3,034.15
Investments:			
Share in C.I.T. Consolidated Portfolio	\$194,037.86		
Deposits in Savings Accounts	29,639.64	233,677.50	
Investment Income Receivable		7,634.47	
Postage Deposit, etc.		740.21	
Furniture and Fixtures, at nominal value		1.00	
Total Assets			\$235,087.33
LIABILITIES, RESERVES AND SURPLUS			
Accounts Payable			\$ 6,268.15
Deferred Income:			
Membership Dues for 1969-70 paid in advance	\$ 20,216.60		
Investment Income for 1969-70 from C.I.T. Consolidated Portfolio (earned during 1968-69)	\$ 7,634.47	27,851.07	
Life Membership Reserve		194,037.86	
Reserve for Directory		574.79	
Surplus		6,355.46	
Total Liabilities, Reserves and Surplus			\$235,087.33
STATEMENT OF INCOME AND EXPENSES For the Year Ended June 30, 1969			
INCOME			
Dues of Annual Members			\$36,485.00
Investment Income:			
Share from C.I.T. Consolidated Portfolio		5,912.60	
Interest on Deposits in Savings Accounts		1,587.55	
Annual Seminar		5,923.00	
Program and Social Functions		2,757.00	
Area Dinner Meetings		541.50	
Miscellaneous		22.50	
Total Income			\$53,220.15
EXPENSES			
Publications			\$21,734.12
Annual Seminar			6,120.73
Program and Social Functions			4,180.82
Directory Appropriation			3,500.00
Administration			7,618.43
Membership Committee			1,815.54
ASCIT Assistance			2,199.00
Area Dinner Meetings and Chapter			1,132.82
Alumni-ASCIT Social Affairs			218.64
Total Expenses			\$48,520.10
Excess (Deficit) of Income over Expenses			\$ 4,700.05

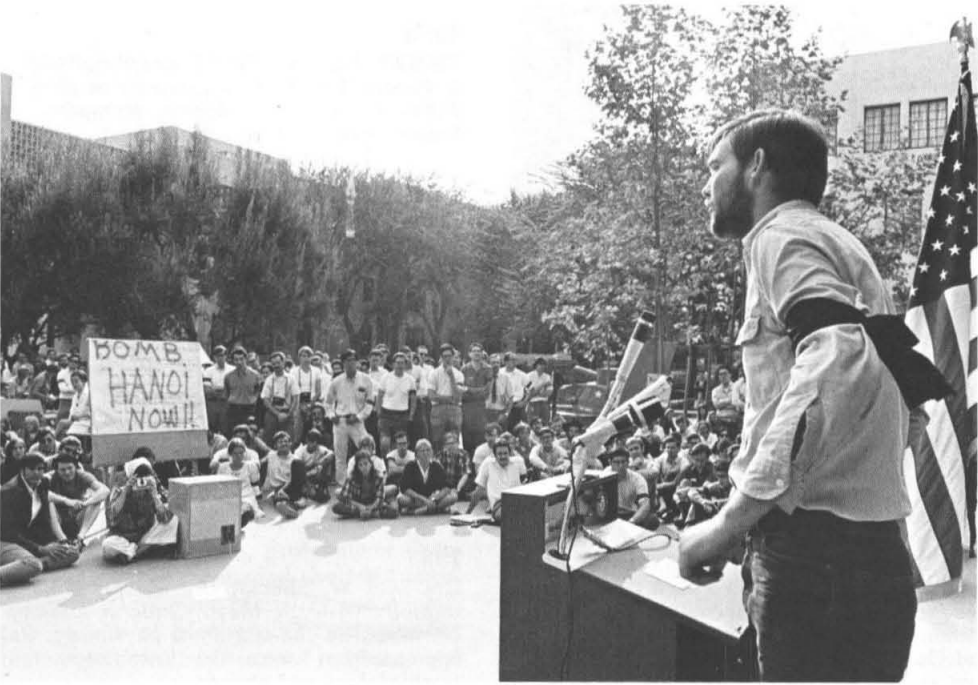
AUDITOR'S REPORT

Board of Directors, Alumni Association, California Institute of Technology

I have examined the Balance Sheet of the Alumni Association, California Institute of Technology as of June 30, 1969, and the related Statements of Income and Expenses and Changes in Life Membership Reserve, Reserve for Directory, and Surplus for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as I considered necessary in the circumstances.

In my opinion, the accompanying Balance Sheet and Statements of Income and Expenses and Changes in Life Membership Reserve, Reserve for Directory and Surplus present fairly the financial position of the Alumni Association, California Institute of Technology at June 30, 1969, and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Calvin A. Ames
Certified Public Accountant



A young man who recently spent four years in jail for refusing induction addresses an afternoon rally held at Caltech, October 15, in conjunction with the nationwide moratorium to protest and discuss the war in Vietnam. More than five hundred people from Caltech and the surrounding community also participated in group discussions and a "march on Pasadena" to gather signatures for anti-war petitions.

MORATORIUM

PERSONALS

1927

HENRY P. ANDERSON, assistant engineer for the Metropolitan Water District of Southern California, was married August 1, 1969, and is living in San Gabriel, California.

1933

ROBERT D. FLETCHER, MS '34, MS '35, received the 1969 Losey Award from the AIAA. He is now deputy chief of staff for aerospace sciences, Hq. Air Weather Service, Scott Air Force Base, Illinois.

L. EUGENE ROOT, MS '34, former president of Lockheed Missiles and Space Company, Sunnyvale, California, retired in September and underwent open-heart surgery. He is reported to be recovering satisfactorily.

1937

EDWARD T. PRICE JR., professor of geography at the University of Oregon, received a Guggenheim Fellowship for a historical study of courthouse squares in the eastern United States.

1938

WILLIAM F. NASH JR., MS '39, PhD '42, retired as vice president of C F Braun & Co.

DONALD S. TAYLOR, PhD, is a director of United States Borax and Chemical Corporation of Los Angeles, where he has been serving as vice president.

1939

WALTER H. MUNK, MS '40, is the recipient of the 1968 Gold Medal of the Royal Astronomical Society of London. He is associate director for the Institute of Geophysics and Planetary Physics at U.C. San Diego.

FRANK RADOVICH, former divisional product manager for the American Potash and Chemical Corporation, has moved to Oklahoma City to serve as manager of marketing and staff personnel.

1944

ARTHUR N. CARSON, president of the Carson Laboratories, Inc., Bristol, Conn., has been granted a patent for a holography memory system he developed. The system uses lasers and crystals that enable storage of 1,000 standard-size book pages of information in a crystal two inches square.

1946

CHARLES W. GRIFFING, MS, AE '47, has joined the newly established advanced electronic systems operations of TRW Systems Group. He was formerly the head of the Navy space systems activity at the United States Air Force Space and Missile Systems Organization.



Griffing '46



Sokol '51

1948

THOMAS H. STIX, professor of astrophysical sciences at Princeton University, received a Guggenheim Fellowship for study in non-linear interactions of plasma waves.

ROLAND W. URE JR., MS, researcher in the field of thermoelectricity and formerly with Westinghouse Research Laboratory in Pennsylvania, has been given a joint appointment as professor of electrical engineering and professor of materials science at the University of Utah.

1949

ARTHUR E. BRYSON JR., MS, PhD '51, received the 24th George Westinghouse Award in recognition of outstanding engineering teaching. Bryson is a professor of applied mechanics, aeronautics, and astronautics at Stanford University.

1951

CLARENCE R. GATES, PhD, will head the newly organized mission analysis division at JPL. He has been working there as manager of Voyager mission operations system division.

LAWRENCE B. SOKOL has been appointed director of marketing for General Monitors, Inc., Costa Mesa, California. Prior to the appointment Sokol was marketing manager for Glassco Instrument Company of Los Angeles.

1952

DAVID L. HANNA, of Booz, Allen and Hamilton, International Management Consultants, reports he transferred to Mexico from Pakistan to become director general of the Mexican subsidiary's consulting activities.

1956

JEREMY F. CROCKER has joined Bennett Respiration Products in Santa Monica, California, as a project engineer working on inhalation therapy equipment. Previously he worked on related products at the DeVilbiss Company in Toledo.

1957

GARY Y. BREITBARD writes that he will be working in France for the Département de Mathématiques Appliquées of the University of Grenoble. Former systems programmer for the medical faculty at Stanford, he will work as systems programmer in language development.



Medsger '57



Haden '62

STANLEY H. CARPENTER writes that he is now commanding officer of Marine Wing Support, Group 17, Chu Lai Air Base.

JAMES T. GOTO, MS, left Caltech last June for Tokyo where he is now a professor of engineering at Tokai University. Goto worked in Firestone Laboratory as a research engineer.

GERALD W. MEDSGER, MS, is the new director of research for the U. S. Military Academy at West Point, where he was an associate professor and the executive officer of the department of mathematics.

1958

THEODORE C. OAKBERG joined the faculty at Pacific University as professor of physics. Oakberg was with Boeing Company in Seattle prior to his appointment.

1960

MEREDITH C. GOURDINE, PhD, is expanding his research and development firm, Gourdine Systems, Inc., to begin manufacturing a unique, lightweight paint spray apparatus. Gourdine has also been elected to the board of trustees of Cornell University, where he received his BS degree.

STANLEY A. SAWYER, PhD '64, has joined the faculty of Yeshiva University's Belfer School of Science in New York. The assistant professor of mathematics was teaching at Brown University.

1961

GEORGE W. BEELER JR., MS '61, PhD '65, formerly with the Mayo Clinic as associate consultant in the section of physiology, was appointed last June as the clinic's consultant in physiology and physics.

1962

CLOVIS R. HADEN, MS, previously an associate professor of electrical engineering at Texas A & M University, has become the director of the university's institute for solid state electronics.

MILTON E. MORRISON, MS, PhD '65, now completing three years of active duty in the United States Air Force, accepted a position as section head in the research laboratory at American Enka Corporation of North Carolina.

1963

TERRY R. GALLOWAY, PhD '67, has been appointed engineering research supervisor in the chemical engineering department of Shell Development Company's research center in Emeryville, California.

LEE M. MOLHO, married in May to Sonya Bekoff, is now working as senior staff engineer in the technology directorate of the Systems Development Corporation, Santa Monica.

1966

ROBERT M. BOWMAN, PhD, a major in the United States Air Force, is on duty at Phu Cat Air Base, Viet Nam, where he is an F-4 Phantom pilot.

ELLEN G. STRAUSS, formerly Ellen R. Glowacki, is now a research fellow in biology at Caltech. She was married last January to James H. Strauss, an assistant professor of biology at Caltech.

1967

STEPHAN B. ABRAMSON writes that he is a PhD candidate in the department of biological chemistry of Harvard Medical School. He was married June 8, 1969, to Joan Fishman of Brookline, Massachusetts.

OBITUARIES

1922

LINNE C. LARSON, July 3, 1969, following an automobile accident. He was an executive officer for the Los Angeles Regional Water Pollution Control Board before retiring in 1965. He is survived by his wife, Ruth, and two children.

1925

EDWARD D. CORNELISON, MS '38, August 2, 1969. He had been the chairman of the department of technology and a counselor at Pasadena City College prior to his retirement in 1968.

WESLEY HERTENSTEIN, June, 1969. An engineer and tree expert, he had been with Caltech's physical plant since 1930, and had served as its director since 1954. Before his retirement last year, he was special assistant to the vice president for business affairs at the Institute.

HERBERT J. JONES, June 16, 1969. The former departmental superintendent for the Union Oil Company in Wilmington is survived by his wife, Charlotte, and one son.

1927

FRED J. EWING, PhD '35, July 12, 1969. Ewing was vice president of Catacycle Company, Inc., before retiring in 1965. He is survived by his wife, two children, and four grandchildren.

1928

THOMAS H. BRIGHTON, August 30, 1969. He was a senior staff engineer with Chevron Research Company in Richmond, California.

1933

DANIEL D. TAYLOR, PhD, August 30, 1969. Prior to retirement in 1965 Taylor was project director at Mission Laboratories of Beckman Instruments, Inc. He is survived by his wife, Sarah, three children, and seven grandchildren.

1936

KENICHI WATANABE, PhD '40, August 15, 1969. Watanabe had been a senior professor of physics at the University of Hawaii since 1961. He was noted for work on ultraviolet absorption in the upper atmosphere and was also a consultant for NASA and the Aerospace Corporation. He is survived by his wife, Betty, and four daughters.

1938

WILLIAM S. STONE, MS. Stone, a general in the United States Air Force, was Air Deputy to SACEUR.

1944

FREDERICK W. KRUSE JR., July 16, 1969, as a

JONATHAN DANIEL M. ROMNEY, NSF fellow in astronomy at Cornell University, was married in August to Eloise Hawkins of Paramus, New Jersey.

MATHILDE JEANETTE SWANK, PhD, formerly Jean Hebb, is now a lecturer at Chicago State College.

1968

JOHN C. DEAN, a 2nd lieutenant in the United States Air Force, graduated with honors from the training course for Air Force Ground Electronics Officers at Keesler Air Force Base, Mississippi. He is assigned to Scott Air Force Base, Illinois, for duty with the Air Force Communications Service.

1969

GREGG F. WRIGHT, captain of Caltech's swimming team in 1968-69 and an NCAA college division all-American in 1967, received a postgraduate scholarship from the National Collegiate Athletic Association. Wright now attends Case-Western Reserve University Medical School in Cleveland.

JOSEPH RHODES, a junior fellow at Harvard University, was appointed in June as director of a nationwide student research project, funded by the Ford Foundation. The program is designed to afford students a greater opportunity to investigate subjects in which they have high interest. Rhodes also serves as a part-time faculty member in the department of education at the University of Massachusetts.

result of an air taxi accident in New York. Kruse was president and board chairman of Kruse-Storke Electronics of Mountain View, California, which he founded in 1964. He is survived by his wife, Mabel, and four children.

1945

YUNG-HUAI KUO, PhD, December, 1968. He was vice chairman of the mechanics department at the Academy of Sciences in Peking.

1946

THEODORE S. GILMAN, MS, February 11, 1969. A professor of chemistry at the University of Colorado, he was on a sabbatical leave under a Fulbright Travel Grant to do research at the Institute for Physical Chemistry at the University of Vienna. He is survived by his wife, Barbara, and two children.

1947

MORRIS FEIGEN, MS, July 4, 1969. Feigen, a specialist and lecturer in aeronautical engineering, had been with TRW Systems Group and was most recently the defense systems laboratory manager. He is survived by his wife, Evelyn, and three children.

1949

JAMES M. ROUNDS, MS, June 21, 1969. Rounds worked for the Boeing Company and was involved in the development of the controls system of the supersonic transport. He is survived by his wife, Helen, five children, and one grandchild.

1955

JOHN C. STEWART, PhD, September 22, 1969. A professor of physics and astrophysics at the University of Colorado, he was a member of the staff of the joint institute for laboratory astrophysics. He is survived by his wife, Rachel, and three daughters.

1957

JAMES H. BERRIAN, PhD, March 17, 1969. Berrian was the manager of the life sciences laboratory for Lockheed-California Company at the Rye Canyon Research Center in Burbank.

RICHARD W. MICHIE, May, 1969. He was an associate astronomer at the Kitt Peak Observatory in Arizona.

1964

WILLIAM G. SMITH, MS '65. He was a chemical engineer for Esso Engineering and Research Company. He is survived by his son, Michael, for whom a college fund has been established. Friends may send contributions, payable to Michael Smith College Fund, care of Frank S. Rhame, 1107 Nielsen Court, Apt. 5, Ann Arbor, Michigan 48105.