

progress to July 1 of this year will appear in the October issue of *E & S*. Names of donors will be published too.

*E & S*, as I have already intimated, is now a joint Institute and Association venture, with our Association the legal owner and the Institute our agent. Management policy is set by a management board of Alumni and Institute staff members and the actual editing is done by Ed Hutchings as a member of the Institute staff. The total budget of *E & S* is about \$16,800 of which the Institute pays \$9,300 in cash and services, the Alumni Association pays about \$4,000 and advertising revenue pays \$3,500. We hope that more circulation and more advertising will gradually reduce the Institute's share, or even make the magazine self-supporting, but this will be a very slow growth. Wendell Miller, Bob Lehman and Harry Farrar have ably represented the Association on the management board.

Doug Sellers and Rube Mettler have done an outstanding job this year in the

field of student relations and placement counseling. In a series of weekly lectures by successful men in different industrial and professional fields, followed by opportunities for discussion, those students who were interested have had a chance to get a look into different possible vocations through the eyes of men active in those fields.

A panel of some 70 alumni, who have volunteered their services, has been organized to give any student a chance to meet and talk individually with a man or men experienced in a particular field.

Our Association has grown far beyond the boundaries of Southern California. New York and San Francisco have had strong and effective chapters for several years. Chicago and Washington have young but apparently very virile groups. Boston, because many alumni go to Boston for advanced study, has had a rapid turnover of membership and has had difficulty in maintaining a cohesive group. At the moment a strong effort is being made to

re-activate the Boston chapter. These chapters are a great source of satisfaction to alumni resident in distant parts, whether they are exiled Californians or foreigners who came to Tech for a brief interlude. They are also a welcome point of interest for the traveling alumnus, as I can well testify for I have visited three of them this year and thoroughly enjoyed meeting old friends and new with a common interest in Caltech.

The Chapters are also of great value to the Association as outposts to stimulate interest in Association activities, and to the Institute as contact agencies which can help in evaluation of prospective students.

You have a strong Association; its financial situation is healthy, its membership is large and growing both in numbers and in ability and experience. You have sound reasons to support the Association in its program of assistance to Tech and to Tech alumni and students.

It's up to us to maintain our standing on the great team of which we are a part.

## PERSONALS

### 1918

William R. Hainsworth is by now in Alaska with the Arctic Institute of North American Expedition. He says, "I hope to climb Mt. Vancouver with Walter Wood, leader of the expedition, and others. In this case, the 'old men' are going into the mountains and the young men will take care of the scientific work—a reversal of the usual procedure."

### 1922

Richard M. Bozorth, Ph.D., hasn't been back to Caltech since he got his degree, and doesn't appear to have had time to. Besides working for Bell Labs, he has (1) been in Japan for the Navy, in 1945, (2) written the current article on magnetism for the *Encyclopedia Britannica*, (3) written most of his book on ferromagnetism, (4) delivered a paper at the Amsterdam Conference on Metals last year. Next year he's invited to Grenoble for the International Conference on Magnetism, but hopes to make Pasadena in 1951.

### 1925

Edward H. Hart is in London setting up a color process there for his Cinecolor Corp. He's also helping an English company establish controls for their process.

Markham E. Salsbury has been named Temporary Chairman of the newly created California Legislative Council of Professional Engineers.

### 1926

C. Hawley Cartwright, Ph.D. '30, is Research Physicist for Corning Glass Works. He has a wife, Valentia, and a two-and-a-half-year-old son, Edgar Hawley.

Burt Beverly has returned to Arabia after a short vacation home, but he didn't ever get around to telling us what he's doing there.

### 1927

Frank A. Nickell, M.S. '28, Ph.D. '31, returned to Pasadena in June from a round-the-world air trip started last February. As a member of an international board of experts on high dams, Nickell made an inspection tour of dams in Nepal and United Provinces of India, to check on progress made since his last trip two years ago. He also spent two weeks inspecting similar construction projects in Afghanistan.

Robert L. Heilbron has been named Acting Principal of La Jolla Junior-Senior High School.

### 1928

Thomas C. Graham died April 22, of a heart attack, in Canton, China. He had been employed by Standard Vacuum Oil Company of Shanghai since 1928. From 1942 to 1945 Graham was in a Shanghai prison camp, and had never fully recovered his health since that experience.

### 1930

John D. Clark got his Ph.D. from Stanford in 1934, and has since worked for General Electric, J. Wyeth & Bro., and Hema Drug. Currently he's with Wallace and Tiernan in Belleville, N. J., doing research and producing, among other things, the Periodic Chart in the May 16th issue of *Life*. Clark says his possessions include 1 wife, 1 malemute dog, 5 turtles, 6 goldfish, and several incipient ulcers.

Howard E. Baker, after fourteen years on the West Coast, was transferred by his company to New York. He's been there since 1947, claims to like the East fine.

### 1931

Glenn J. Chamberlain, M.S. '32, is starting his second year as a consulting mechanical, electrical, and civil engineer in Palo Alto. He has three boys—Jack, 11, Bob, 10, Fred, 8—all interested in arithmetic and athletics.

Howard G. Smits has just moved into his recently completed house in San Marino. He has three daughters, aged 3, 10 and 13. Smits is Executive Vice-President of the Pacific Iron and Steel Co.

Rudolph C. Hergenrother, Ph.D., is working on cathode ray tube development for the Raytheon Manufacturing Co. in Waltham, Mass.

Paul G. Burman writes: "After ten years as Engineer in Charge of the Fuel Injection Laboratory at the American Bosch Corporation in Springfield, Mass., I have been made Section Engineer, Special Assignments. In this newly created post I will be directing longterm research projects concerned with new developments in fuel injection, governing, and engine combustion. In my spare time I'm writing a text and reference book on *Fuel Injection and Controls for Internal Combustion Engines*, which it is hoped will be ready for the publisher, John Wiley & Sons, this Fall."

Joshua I. Soske, M.S., Ph.D. '35, Geologist and Geophysicist of the Geophysical

Engineering Corp. of Pasadena, has recently been made Vice-President of Electric Supply Corp. of that city. His daughter Dorothy was graduated a year ago from the University of California and assisted him as geophysical computer until her marriage last August.

Halley Wolfe, M.S. '34, Ph.D. '35, is co-author of a new book, *Elements of Sound Recording*, published this Spring by John Wiley & Sons. Wolfe is currently engaged in research on new sound recording equipment and methods, including application of magnetic recording to motion picture sound technique, with the Western Electric Company in Hollywood.

### 1933

W. Andrew Ashton has sold his interest in the Howard Hardware Store, San Marino, and is moving to Seattle where he has purchased the H & H Hardware Store in Madison Park. The Ashtons say they would be glad to hear from Caltech alumni thereabouts.

### 1934

Richard S. Crutchfield, Head of the Department of Psychology at Swarthmore University, will be Visiting Associate Professor of Psychology at the University of California in Berkeley for the coming academic year.

George W. Van Osdol, who has recently returned from a two-weeks' cruise with the Naval Reserve, is on the verge of moving into his new house in Tujunga. "I have been toiling on this house for many months now," he writes. "If any of the alumni think it's a cinch to build a large house mostly by yourself in your spare time, I'll gladly disillusion them."

Robert M. Dreyer, M.S., Ph.D. '39, is Professor of Geology and Chairman of the Department of Geology at the University of Kansas.

### 1935

Carl R. Estep is still with station KFI in Los Angeles. Currently he's developing mobile equipment for field strength measurements on KFI-TV. Carl has two daughters, three and eleven, and says he "expects a boy" this October. He's active as a Sunday School teacher, a neighborhood Y leader, and as Engineer's Union Chairman at KFI.

Howard P. Gluckman is an Electrical Design Engineer for the Los Angeles Department of Water and Power. He has just completed work on the 355,000 KW Harbor Steam Plant, and is now working on the plans for the Owens Gorge hydroelectric development. Gluckman has a daughter, 10, and a son, 5.

Major Oliver C. Dunbar, whose marriage was announced in the June issue of E & S, writes to say that he has completed a six-months' course with Western Union and a three-months course with R.C.A. as part of his U.S. Army Signal Corps career training. In September he'll

start a year's course with A.T.&T. in New York City, studying telephone communication.

Louis T. Rader, M.S., Ph.D. '38, has been named Assistant to the Manager of Engineering of General Electric's Control Divisions. Except for a two-year interlude at the Illinois Institute of Technology, as Head of the Electrical Engineering Department, Rader has been with GE since 1937.

### 1936

Raymond H. F. Boothe, M.S. '37, obtained his structural engineer's license in 1948. Later that year he left the Industrial Division of Bechtel Corp., where he was doing structural design, to enter the California Division of Architecture. He is now in the Planning and Construction Section of the Division. Art's second child, Carolyn, was born last August.

Verne L. Peugh, who was resident engineer on construction of the Morris Dam, has more recently been working on construction projects in Bogota, Colombia, for Winston Bros. Co. He will spend a month or two in the States this summer.

John L. Webb, Ph.D. '40, is in England, doing research work at Oxford University. He will leave in September for Zurich, Switzerland, for another year of study.

Holley Dickinson, M.S. '37, is with the Telecomputing Corp., developing methods and equipment for the automatic analysis of engineering and scientific data. He has also formed the Vibratab Co. to manufacture and market a new vibration pickup under license from the Lockheed Aircraft Corp.

Everett B. Henderson was married last October in Ann Arbor, Michigan, flew himself and his bride on a honeymoon through Eastern Canada and home to North Hollywood in a Stinson.

John P. Klocksiem and his wife Dorothea announce the birth of a son, Steven John, on October 3, 1948. Their daughter, Bonnie Ann, is four years old. The Klocksiems moved into their new Westdale Village home about a year ago. J.P. has been with Douglas Aircraft, in Santa Monica, for five years. He's Design Engineer in the Structures Group.

### 1937

Nash H. Miller, M.S., started work with United Geophysical Co. of Pasadena the day after he got his diploma, and has been with them ever since. He's worked in Trinidad, Brazil, Venezuela, Canada, and in many parts of the U.S. Right now his headquarters are in Tulsa, Oklahoma, where he lives with his wife, Mildred, his two daughters, and his young son.

### 1938

Clyde W. Harris has joined the Research and Development Division of the New Mexico School of Mines, at Socorro.

Bob Custer is now working for Bechtel

Construction Co. in San Francisco. He's completing — singlehanded — a six-room house in North Palo Alto. Says he's poured the foundations, done the framing, wiring, and plumbing, finished the outside plastering, and, in fact, has already moved in, with wife Elsa and three children.

### 1940

H. E. Heywood, Jr., has recently been appointed Assistant Chief Engineer of the Toledo, Ohio, plant of National Supply Co.

Alexander F. Brewer was Project Engineer on Radar and Microwave Apparatus at Sperry Gyroscope Co., during the War. Since September, 1946, he has been with the Electronics Department of Hughes Aircraft Co., where he is now Assistant Head of Missile Electronics Section. Brewer married Barbara Catherine Gustafson in New York in 1945, has a two-year-old son, Gregory.

Don Loeffler writes: "I expect to get my Ph.D. in Chemistry at Stanford, June 19th. The following day I'll be married to Miss Sharon Nuss of Los Angeles, who is a senior here at Stanford. When we return from a honeymoon in Mexico, I'll begin work for the Shell Oil Co. in the Martinez Refinery."

### 1941

Harold Kenneth Fink, M.S., has a private practice in psychotherapy (modern electric psychoanalysis) in New York. In addition he devotes one evening a week to a clinic, teaches part-time at Pace College, and is doing some research in methods of increasing speed of therapeutic progress. In all these activities he is assisted by his wife, Charlotte Piez Fink, whom he married in 1946.

Alfred John Bersbach is the father of three sons, the newest being Peter, aged four months. Bersbach is still with GE, at present in the Los Angeles Engineering Division.

John H. Carr, M.S. '43, and his wife announce the birth of a daughter, Catherine Ann, on May 18, 1949.

### 1942

Robert E. Cunningham is in the Research Department of the Solvay Process Division of the Allied Chemical and Dye Corporation at Hopewell, Virginia. He married Miss Mary Mitchell in 1944. A son, Robert, Jr., was born last September.

John A. Drake, M.S. '43, was married to Miss Patricia Fay, in East Ely, Nev., on April 23. John is Chief Designer for Marquardt Aircraft Co. in Los Angeles.

Edwin R. Fay is an Aerodynamicist at Consolidated-Vultee in Fort Worth.

Stew Davis has a son, born January 10.

Roy Weller writes: "Graduated from Stanford University with degree of Master of Business Administration in July, 1948, and went back to work with Ingersoll-Rand Co. After a few months in New York City and Eastern factories, my wife

and I were sent to St. Louis where I am more or less permanently located as a Sales Engineer. Proud father of a baby girl, Constance Ann, born May 24."

#### 1943

Orin J. Mead finished Stanford's Graduate School of Business in June of last year and is working in Boeing's Propulsion Development Department in Seattle. On February 20th of this year he married Mary Ellen Harding (Stanford, '48).

R. E. McWethy is in the insurance business in Aurora, Ill. He's married, has three children.

William C. Thompson, Jr., is working as an electronics engineer at the U.S. Naval Ordnance Test Station at China Lake, Calif.

Married: Harrison C. Lingle, to Dorothy Jane Bragg, on May 14, in Champaign, Ill. Douglas C. Reid, M.S. '47, to Marian Paul, on May 7, in Carmel, Calif.

#### 1944

William H. Bond is a thermodynamicist at Consolidated-Vultee Aircraft Corp. in San Diego. This month he's taking a Naval Reserve cruise to Hawaii. Bill, Jr., is now nearly two.

#### 1945

Burton E. Freeman is at Yale University, working toward a Ph.D. in theoretical physics, which he expects to get next year. He was married to Elizabeth Forrest, of Santa Monica, in 1946, and has an eight-months-old daughter, Kay Marie.

Donald H. Bates, Jr., writes: "Am learning the fish business through odd jobs that turn up — very seasonal work but highly interesting. Just returned from Costa Rica aboard tuna freezer ship *Saipan*, and am heading for a salmon cannery in Alaska. Have worked in a cannery before, and with the Oregon Fish Commission . . . Engineering always comes in handy."

Charles R. Cutler graduated this June from the George Washington University Law School. He plans to practice law in Washington, D. C.

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Donald C. Tillman is designing freeways for the city of Los Angeles, lives in Altadena with his wife and little Don, aged 2.

Robert Wilson Taylor is doing editorial work for McGraw-Hill Publishing Co. His engagement to Miss Virginia Ann Mays of Bronxville, N. Y., was recently announced.

Charles Melville Davis is teaching at John Muir College in Pasadena. In August he will marry Miss Carolyn L. Wolfe, of Alhambra.

#### 1946

Douglas S. Ellis got his M. A. in Psychology from Occidental College in 1948, and is now working toward his Ph.D. at Northwestern University. He's a member of Sigma Xi, and holds a University Fellowship. Ellis expects to win his doctorate this January, and then hopes to work in industrial psychology on the West Coast. In 1946 he married Winifred Lambert. They now have a nine-month-old daughter, Christy.

James F. Chalmers was graduated from Harvard Graduate School of Business Administration this June and is returning to California.

#### 1947

C. Burton Crumly spent a year at GE taking the A-Course, then returned to Caltech for grad work in Electrical Engineering. He held a Teaching Assistantship in that department, and received his M.S. this June. Next fall he goes to Stanford for study toward the doctorate.

Dave Caldwell worked at Los Alamos during the summer after his graduation, doing research in nuclear reactions. He spent the next year at Stanford, doing graduate work in physics, and then got a job as radar design engineer at Gilfillan, in Los Angeles. Now he's continuing his studies at UCLA, where he says he has encountered Dale Meier and Herb Royden.

George D. Shipway announces the birth of his second daughter, Karen Elaine, on February 26.

D. Murray Alexander, M.S., now teaching at Webb School, Claremont, joined the ranks of proud fathers on May 17th, when Patricia Stuart was born at Pomona Valley Hospital. Pat's mother also sojourned at Caltech—as Evelyn Deibert in the Meteorology Department.

#### 1948

Vincent R. Honnold is the father of a baby girl, Maryanne, born April 1 at St. Joseph's Hospital in South Bend, Ind.

Reed A. Gray, Ph.D., is Assistant Chemist for the Pineapple Research Institute of Hawaii, in Honolulu. He's doing research on the biochemical nature of mealy bug wilt on pineapples.

## Letters

CONTINUED FROM P. 2

Therefore, by definition,  $Oa_s$  is also the shortest distance between the center of gravity and the bottom of the schmoo.

4. In tilting or jostling the schmoo, some other point  $a'_s$  on the animal's seat will be brought in contact with the rock, with the original point  $a_s$  now some distance  $y'$  above the rock. Thus, the vertical distance between  $O$ , the center of gravity, and the surface of the rock must have been increased since  $Oa_s$  is less than any other distance between  $O$  and the bottom of the schmoo.

5. In effect, jostling the animal in any direction will raise the center of gravity, providing of course that the center of gravity remains at the same point in the animal and that he (she) does not attempt to wiggle his ears or lay an egg at this moment. To raise the center of gravity, work must be done, and this will necessitate an opposing righting couple formed by the vertical displacement of the center of gravity from the point of contact between rock and posterior.

6. When the displacing force or couple is removed, the righting couple described above will continue to act until  $\Sigma M$  equals zero, and the center of gravity  $O$  is once again in its original nadir position with point  $a_s$  in contact with the rock.

Long Beach

William H. Cook '45

*The schmoo is sitting on a flat rock and thinking. His center of gravity is at  $O$ . With reference to a set of coordinate axes through  $O$ , the equation of his bottom is  $2x^2 + 3y + 2z = 12$ . The schmoo is in equilibrium in his present position. If he is jostled slightly, will he fall over, remain in the displaced position, or return to a vertical position? Why?*

