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with experience in RADAR or ELECTRONICS or those desiring to enter these areas...

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William H. Scott instructs Air Force personnel in connection with Hughes equipment.

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Scientific and Engineering Staff

HUGHES RESEARCH AND DEVELOPMENT LABORATORIES

Culver City, Los Angeles County, California

Assurance is required that relocation of the applicant will not cause disruptions of an urgent military project.

PERSONALS

1920

George O. Suman, who has spent many years with the Tide Water Associated Oil Company, was appointed general superintendent of their coastal district last July, with headquarters in Ventura, California. "I find the people and the climate most agreeable," George writes. "And since coming to Ventura have a new wife, Sally. Also became a member of the Satroy Country Club and am busy chasing the elusive golf ball at times."

1925

Neale D. Smith has been living in Santa Rosa, California, for the last year and a half, and is employed as county administrator of Sonoma County. Neale remarks that his three grandchildren make him aware of just how quickly time passes by.

1926

Robert Burt, Ph.D., and his wife Eleanor, have been traveling for the past year—first through Australia and New Zealand, and now in Europe. "...We followed spring south 3,000 miles in November from the Great Barrier Reef of Northern Australia to the southern tip of Tasmania," Bob writes. "For three months we explored New Zealand, 5,000 miles in our Holden car. First, the North Island with its famed Bay of Islands...jungles of ferns and giant Kauri trees, said to be older and larger than our Sequoias; Auckland...and the unique thermal region of Rotorua.

"Flying back to Australia we boarded the SS Orava for Europe on March 14th. After a day of sunshine in Naples, we disembarked at Marseilles for six weeks on the Riviera."

1928

Edward F. Tuttle has been elected a director of the Hycon Manufacturing Company of Pasadena, Ed, who is a partner in the Los Angeles law firm of Tuttle, Tuttle and Taylor, is the legal counsel for Hycon. He is also executive vice president of the Esick Manufacturing Company, which makes construction equipment and vapor air conditioners.

1933

Robert R. Mead was recently appointed district manager for the Ethyl Corporation, with headquarters in Dayton, Ohio.

1939

Ronald Connelly, who is living in San Francisco, writes: "I have been in the Bay Area for so long now (15 years) that I feel as though I were a native. The last 10 years have been occupied with work at the San Francisco Naval Shipyards as assistant in electronic design. A baby girl born March 11th has pushed other activities such as house-building and square dancing to a very low priority for my wife, Barbara, and me."

ENGINEERING AND SCIENCE
SUCCESSFUL DESIGNS
MUST FIRST BE
LOW IN COST

The first demand on every design is
cost to meet price competition.
Therefore, as a product engineer you
must be sure your designs are eco-
nomical to manufacture and use the
fewest pounds of the lowest cost ma-
terials that will do the job.

Study the facts in the above chart.
They show you how drastic savings
in materials can help cut the
costs of manufacturing
machinery up to 50%.

Here is a machine part . . . a steady
rest for a machine tool. By using
welded steel construction, the design-
er has cut down weight, yet has made
the component stronger and more
rigid to build accurate alignment.
The cost of producing the welded
steel steady rest is 36% less.

AND SO . . . by manufacturing your products from
welded steel, costs can be reduced an average of 50%.

Original Design
of steady rest

Present Steel Design
of steady rest

Data on Designing for Steel is available in Engineering Bulletin
and Handbooks by writing THE LINCOLN ELECTRIC COMPANY
Cleveland 17, Ohio
The World's Largest Manufacturer of Arc Welding Equipment

1940
John C. Kaper writes from Claremont,
Calif., that he is planning to leave the
U. S. Geological Survey this summer to
teach geology at Louisiana State. John
and his wife now have two children—their
newborn having arrived last February.

1941
Dr. Harold K. Fink, MS, a psychoanalyst
in private practice, has a new book, Long
Journey (Julian Press)—the true story of
a troubled young man's psychoanalysis.
Last year Dr. Fink published another book,
Mind and Performance, a comparative
study of learning of mammals, birds and
reptiles. He has been in private practice
since 1945, and presently conducts classes
for executives in industry at the Brooks-
Psychological Institute.

1942
Pichel W. Pichel has joined Solar Air-
craft as an experimental engineer. Before
joining Solar, he had been with the Aero-
jet-General Corporation in Azusa for more
than six years, and had served as project
engineer for the past three years. The
Pichels have a daughter, Robin, 10, and
live in Rancho Santa Fe, California.

1943
William H. Halpenny and John A. Zivic,
'44, were recently appointed project engi-
neers for the Hunter Engineering Company
of Riverside, California. For Bill this
means a return to his home town, as
he went to school in Riverside. Before joining
Hunter he was project engineer for the
Flor Corporation of Pasadena, and had
to do quite a bit of traveling. Last year
he spent several months each in Alaska,
South America, and Canada.

John has been with the Naval Ordnance
Test Station at Inyokern, California, ever
since his release from the Navy, where
he held the rank of lieutenant commander.

1944
Ruben F. Mettler, MS '47, PhD '49, was
married early in May to Donna Jean Smith
of National City, California, and they
are now living in Brentwood. Ruben joined
the Ramo-Wooldridge Corporation of Los
Angeles last March as director of Ad-

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Corp., Buffalo 25 or Denver 8.
Roderick K. Clayton, PhD, will be spending the summer at the Marine Biological Laboratory at Woods Hole, Massachusetts, studying on a Lalar Fellowship.

1949

William N. Harris just received his commission as an Ensign in the U.S. Navy at the Newport, R.I., Officer’s Candidate School. Bill will now be serving three years in the Civil Engineers Corps, starting with two months of school at Port Hueneme, California.

Kenneth W. Gardiner received his MS from MIT last year, and is now working for the Stanford Research Institute of Menlo Park, California. Ken was married in July, 1953, and now he and his wife have a nine-months-old daughter.

Hardy C. Martel and his wife Jean became parents for the first time when Jeffrey Charles was born May 9. Hardy is an instructor in Electrical Engineering here at Caltech.

1950

Edward M. Mackevitt, MS, writes: “Since leaving Caltech I’ve been employed as a geologist with the Mineral Deposits Branch of the U.S. Geological Survey. The past few years I’ve worked mainly in Inyo County, California, principally in the Darwin Quadrangle. This summer I’m scheduled to map in the southern Sierra Nevada. My wife and I are living in San Jose and have a daughter, Patricia Ann, 2 years plus.”

Edsel A. Worrall is now working for the Westinghouse Electronics Division at Baltimore, Maryland. He was married last April to Louise Neuhans in Baltimore.

Richard Brewer was employed as a propellant chemist at Aerojet right after graduation, and he stayed with them until 1953, when he decided to work on his doctorate at the University of California in Berkeley. Right now all Dick’s plans have been interrupted by a two-year hitch in the Army.

William Roberts, MS, and his wife Lorraine, report the birth of “Our First Little Rockhound”—sou Randolph, who arrived in February.

1952

Donald Stewart, MS ’53, is on military leave from Standard Oil of California in San Francisco, where he was employed in the engineering department. Don’s going to be in the Army until July, 1956, but what with a 10-hour week, off-quarters living, and allowances, he says the Army is almost bearable. He’s serving with the Headquarters Material Command in Baltimore.

1953

Duane Marshall is living in Menlo Park, California, and writes: “Same job at Hewlett-Packard. Going to Stanford part time ... get MS in June. No school plans for next year. April 13, ’55, we had a boy, named Lance. Other two children, Scott, 3, and Dana, 2, are doing fine.

‘Bought a house in Los Trancos Woods ... a genuine community of civilized, moonshine mountainites. Have long since sold my assorted motorcycles, but am still sticking to old cars for awhile. During the summer 1 bicycle the 9.1 miles to work.

‘Recently I was thrown off the bike on a bad road and bridge—broke my arm and still have it in a cast. Just got my foot out of a cast—had some missing ligaments replaced in my ankle.”

John Wilson came back to visit the Caltech geology department a few months ago, and reported that he had just completed his requirements for an MS in geology at Kansas University. He now plans to work as an independent consulting geologist in the vicinity of Fremont County, Wyoming.

1954

Francis W. Joyce is returning to Los Angeles this month to begin working for Danes & Moore, right after he receives his MS from the Harvard Grad School. Francis and his wife have two boys, the youngest born a week after he graduated from Tech. “I have been seeing many Tech men at Harvard,” Francis writes. “About 10 people of the class of ’54 are here, plus others from earlier classes.”

Gordon Lonier sends in the following: “Working for Shell Oil Company, presently in Bakersfield, California. Have been in Nevada, Utah, Arizona in the past two months. Was in Ventura, California, last winter with J. T. Billings, Hans Mold, Bruce Watkins, Bob Olson, (all class of ’54), and Leon Madsen, Pat Fazio and Wahi Ghazi, (all class of ’53). To be married to Elizabeth Walker of Glendale on June 26th.”