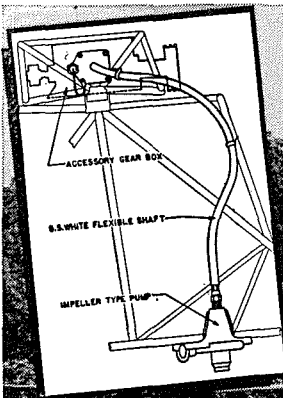


ALUMNI NEWS



An *S.S. White*
Flexible Shaft

provides the "muscle"
for a unique
airborne duster



The economics
of
Flexible Shafts

Courtesy Bell Aircraft Co., Buffalo, N. Y.

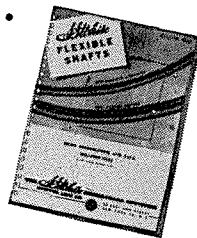
When the manufacturer of this crop-dusting helicopter wanted to transmit power from the accessory gear box to the insecticide pump, mounted some distance away, he chose an S.S. White flexible shaft to do the job. As the diagram shows, the shaft provides a simple one-piece coupling that can be readily run around intervening struts and frames.

* * * *

Many of the problems you'll face in industry will involve the application of power drives and remote control with the emphasis on low cost. That's why it will pay you to become familiar with S.S. White flexible shafts, because these "Metal Muscles"® represent the low-cost way to transmit power and remote control.

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Seminar Day

THE 15TH ANNUAL Alumni Seminar will be held at the Institute this year on Saturday, April 12th. Details concerning the program and events scheduled for the day will be going out to alumni shortly, and the complete program for the day will be printed in the next issue of E&S.

Remember the day—April 12th.

Institute Doctor

WILLIAM R. V. MARRIOTT, M.D., Caltech '40, M.S. '42, arrived on the campus last month to take the position of Director of Student Health.

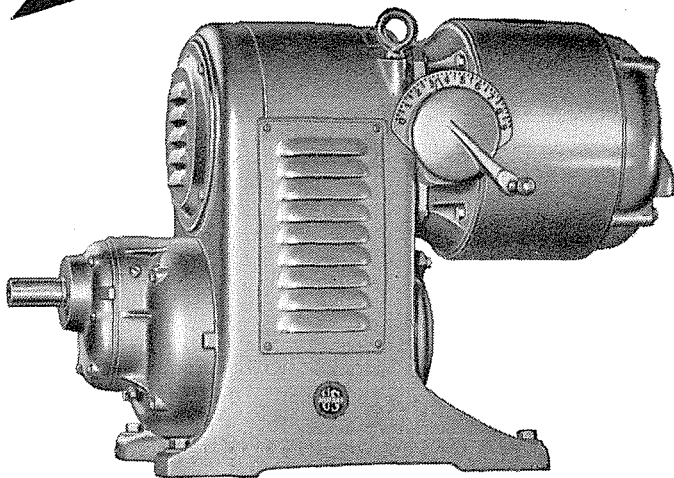
Dr. Marriott succeeds Dr. William S. Gevurtz, who resigned because of ill health.

Dr. Marriott comes to Caltech from March Air Force Base, where he was director of the base hospital. He held the rank of Major. A chemistry graduate at Caltech in 1940, he got his master's degree in biology here in 1942, doing bio-chemistry research under the guidance of Dr. Borsook. It was through his suggestion he first considered going to medical school. In 1941 he received a research grant at the Huntington Hospital, where he did research on lead poisoning under Dr. Alvin Foord.

He entered the University of Southern California Medical School in June, 1942 as a part-time student, at the same time directing the laboratory of a vitamin manufacturing company. In 1943, with the initiation of the Army Specialized Training Program, he entered the Army and continued his education in that Program. He completed his academic work in 1946, and was made a member of Phi Kappa Phi while a medical student. He served a one-year rotating internship at the Los Angeles County Hospital in 1946-47. He received an M.D. degree in April, 1947 and obtained a California Medical License in June, 1947.

He returned to active military service as a First Lieutenant in August, 1947 and was promoted to Captain in August, 1948. From August, 1947 to June, 1948 he was an instructor in biochemistry and pharmacology at the School of Aviation Medicine, Randolph Air Base, Texas. His time there was mostly spent doing research, but while there he also learned to interpret electroencephalograms. Desiring to return to clinical medicine, he asked for a transfer and was reassigned to the 317th Station Hospital, Wiesbaden, Germany, in June, 1948. Because Wiesbaden was the neuropsychiatric center for the armed forces in Europe and because he had some neuropsychiatric training during his internship, he became an Army psychiatrist. During a good portion of that time he was acting chief of the department.

CONTINUED ON PAGE 38



U.S. VARIDRIVE

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ALUMNI NEWS . . . CONTINUED

In the winter of 1949 he was able to take a seven-weeks' course of advanced training in dermatology at the University of Vienna Medical School. In May, 1949 he transferred into the department of Internal Medicine. From 1949 till October, 1951 he remained at the Air Force Hospital in Wiesbaden, serving as Chief of the Medical Service or Assistant Head of the Service and also as Chief of the Laboratory Service. He remained in the hospital in Wiesbaden for two and one-half years over his required military service. This was not especially for the advantage of being able to tour Europe, but rather because of the excellent experience he was gaining, and the confidence and satisfaction he received from treating very sick patients entirely on his own. Since May, 1951 he had been eligible for immediate discharge upon his request.

As an undergraduate at Caltech, Marriott was on the Board of Control for two years, a member of the Varsity Club and the Beavers. He received an Honor Key, was treasurer of Throop Club, secretary of Pi Kappa Delta, on the Election Committee and the Publicity Committee. He was on the Frosh and Varsity track and cross country teams, was a debater for four years and a member of Tau Beta Pi.

Dr. Marriott was married in 1946. Born in Canada, he became a naturalized citizen in 1943. He has had eight and one-half years of military service, of which four and one-half years were commissioned service as a medical officer.

President Beckman

ARNOLD O. BECKMAN, Ph.D. '28, has been elected president of the Instrument Society of America. He's the first western man elected to the post since the Society was founded in 1945.

Beckman received his doctor's degree at Caltech in photographic chemistry, and served as a member of the Institute's faculty from 1926 to 1940. He is now president of three companies in the Pasadena area — Beckman Instruments, Inc., the Helipot Corp., and Arnold O. Beckman, Inc. The Beckman spectrophotometer is known as the work horse in modern biochemical research. With similar instruments it provided controls for materials used in production of synthetic rubber during World War II. Beckman instruments are also widely used to control industrial processing operations such as sugar refining, electroplating, water treating and brewing.

The Instrument Society of America is now devoted largely to industrial process control. As president of the organization, Beckman hopes to broaden its scope to include other instrument fields such as meteorology, aviation, medicine, and electricity.

Zarem Address

A. M. ZAREM, M.S. '40, Ph.D. '44, in an address before the Lake-Colorado Business District Association in Pasadena last month estimated that Caltech has indirectly created a \$50,000,000 annual industrial payroll in the Pasadena area — and is the source of a grand total of \$100,000,000 a year pumped into the area's economy.

As a result, he added, sometime in the not too distant future this will become a multi-billion dollar industrial area.

The Far West, Zarem said, has just passed through a 100-year industrial handicap, due to two great barriers — the Rocky Mountains and the mental attitude of the industrial East. Right now, the North Central and Northeast sections of the United States have 16 per cent of the country's land area, and 98 per cent of its industries — regardless of the fact that the West has the unlimited supply of natural resources.

The change in Pasadena in the last decade, he said, is an example of the change being wrought by industrial research. In 1920 there were 300 research laboratories in America. Today there are 2500. A survey conducted by the National Research Council in 1940 proved that the

majority of big industrialists admit that their industries would be out of business within three years' time, without the research laboratory.

Training of scientists at Caltech, therefore, has become of extreme importance, for trained scientists start new industries. Examples of some of Pasadena's growing industries based upon fundamental research done by men at Caltech are the Arnold Beckman Instrument companies (see p. 38); the Consolidated Engineering Corporation, first in the field with the mass spectrometer; Aerojet Engineering Corporation; the U. S. Naval Ordnance Test Station; Applied Physics Corporation; the Hycon Manufacturing Company and the William Miller Corporation, all tied closely to Caltech.

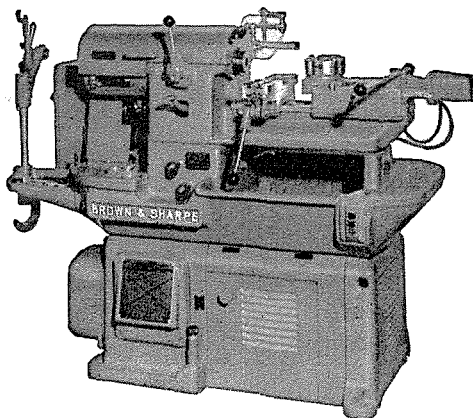
Director of the Los Angeles Division of the Stanford Research Institute, Zarem said he was even forced to admit that 12 of the scientists on his own staff were Caltech graduates.

Stuart Fraser

STUART FRASER '39 was one of three men who lost their lives in an avalanche near Sun Valley, Idaho, on January 19. A guest at the resort, Fraser and another student skier were working with a ski instructor on Sun Valley's famous ski course when the snow-slide occurred.

Stuart had been Materiel Manager with the Ryan Aero-

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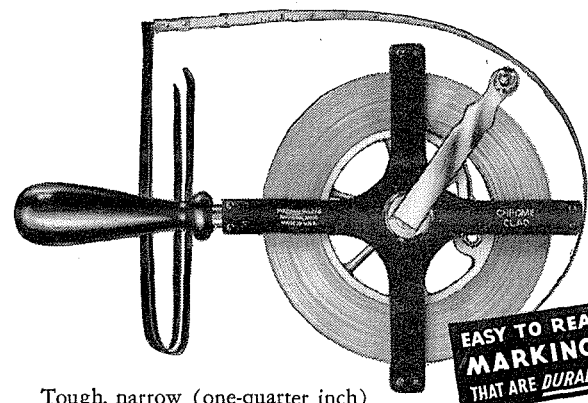


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nautical Company in San Diego. As an undergraduate he was a member of the band, orchestra and drama club, and was captain of the Caltech ski team.

Springer Memorial Ski Race

ON MARCH 23 the Dick Springer Memorial Ski Race will be run at Kratka Ridge, California. Dick, who died in an auto accident last May, was graduated from Caltech in 1945. His M.S. degree was awarded posthumously at the 1951 Commencement. An ardent skier, Dick was a charter member of Ski Club Alpine, one of the sponsors of the Springer Memorial Race to be held next month. The other sponsors: Kratka Ridge and the Mountain Dancers, who have donated a trophy.

Identified Motorist

AT THE HEIGHT of the winter rains the accompanying picture appeared one morning in the Los Angeles Times. "A motorist," said the caption, "mercifully unidentified, stalled on Jefferson Blvd. west of Centinela Ave., had to shed his pants, jump in waist deep and push."

Now that the worst of the rains have gone and tempers have improved it seems safe to identify the motorist in the picture as Lowell C. Parode, M.S. '47. According to



Unidentified motorist demonstrates underwater device

one of Lowell's classmates, who might as well remain mercifully unidentified, the picture "illustrates Lowell's latest ideas on underwater devices."

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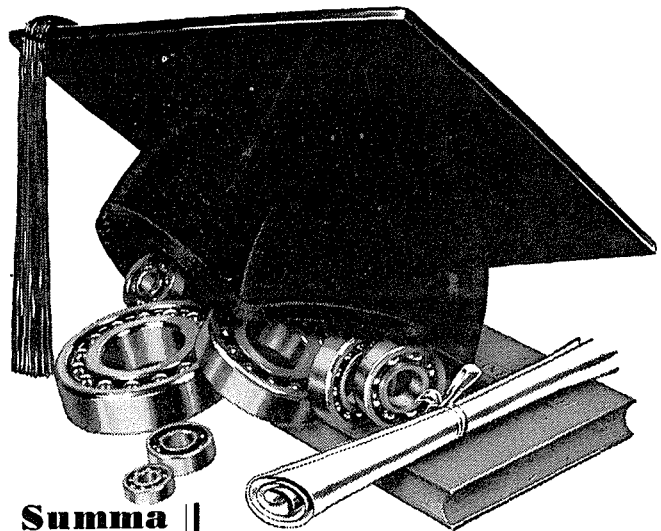
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