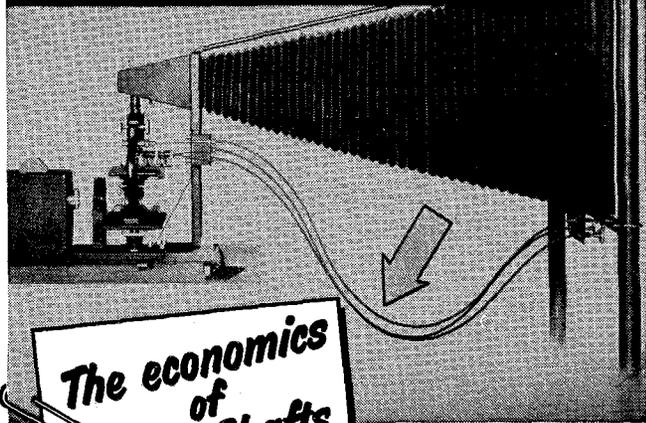


Flexible Shaft Fingers

4 Feet Long

focus a microscope



*The economics
of
Flexible Shafts*

When the manufacturer of this microprojector wanted to provide a means of focusing the microscope from control knobs mounted 4 feet away, he used S.S.White flexible shafts. No other method offered the same simplicity and economy. As for sensitivity, the flexible shafts fully satisfied all requirements, because they are engineered and built to provide smooth, easy control over distances of 50 feet or more.

* * * *

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.

**SEND FOR THIS FREE
FLEXIBLE SHAFT BOOKLET . . .**

Bulletin 5008 contains basic flexible shaft data and facts and shows how to select and apply flexible shafts. Write for a copy.



**THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO.**



Dept. C, 10 East 40th St.
NEW YORK 16, N. Y.

ALUMNI NEWS

Annual Meeting

THE ANNUAL BANQUET and Meeting of the Alumni Association will be held on Wednesday, June 9, at the Pasadena Elks Club. A reunion of the classes of 1914, 1919, 1924, 1929, 1934, 1939, 1944 and 1949 will be held at the banquet. Dinner at 6:30 p.m. will be preceded by a social hour at 6 p.m.

Family Picnic

THE ANNUAL ALUMNI Association Family Picnic will be held Saturday, June 19, at the Police Academy in Los Angeles, 1880 North Boylston Street (on the edge of Elysian Park.) Admission price of \$2.90 for adults, \$1.85 for children under 8 years, includes all the beer and pop you can drink, plus a fine barbecue dinner at 5 p.m. Come at noon and enjoy yourself with badminton, volleyball, tennis, softball, or swimming (extra charge for use of swimming pool).

Alumni Directory

A NEW CALTECH ALUMNI DIRECTORY came off the press early this month and a check discloses that there are 6400 living alumni scattered throughout the 48 states and 49 foreign lands. However, more than 57 per cent of the graduates live in California.

The directory lists some 3700 alumni in the state. Studies of former graduating classes have shown that a large percentage of the students who came from out-of-state high schools settled in California—particularly southern California. The Pasadena-Los Angeles metropolitan area alone accounts for more than 2800 of the California total.

Listed abroad are some 275 alumni in such far-flung locations as Afghanistan, Chile, Egypt, Iceland, Indonesia, Iran, and the Union of South Africa. Another 65 are listed with only Army or Fleet Post Office addresses.

Kenneth F. Russell, '29, vice-president of the Caltech Alumni Association, was in charge of preparing the directory. In tribute to his work, the Board of Directors of the Alumni Association has passed a resolution expressing to him "the sincere appreciation of the Association and the Board of Directors for his outstanding contribution and performance."

National Academy

DR. WOLFGANG K. H. PANOFSKY, PhD. '42, was elected to the National Academy of Sciences at the organization's 91st annual meeting in Washington, D.C., last month. Election to the National Academy is in recognition of outstanding achievements in scientific research. Member-

ENGINEERING AND SCIENCE

ship is limited to 500 American citizens and 50 foreign associates, and Dr. Panofsky's election brings Caltech alumni membership in the organization to 21. There are also 26 Caltech staff members in the Academy. (See page 20).

Dr. Panofsky, professor of physics at Stanford University, was graduated from Princeton University in 1928 and received his PhD at Caltech in 1942.

For three years he headed a war research project for the Office of Scientific Research and Development. In 1945 he became an Atomic Energy Commission consultant at Los Alamos and a staff member of the University of California and its Berkeley Radiation Laboratory. He joined the Stanford faculty in 1951.

He has made contributions in many fields of physics, including X-rays and the physical constants, ballistic shock waves, high energy accelerator design, instrumentation in nuclear physics, properties of mesons, and the study of nuclear forces. Among his leading contributions was the interpretation of experiments that gave the first evidence of the existence, lifetime, mass and other properties of the neutral pi-meson in research with the Berkeley cyclotron.

Caltech alumni previously elected to the National Academy of Sciences, aside from those on the Caltech staff, include: Robert B. Brode, PhD '24, Sterling B. Hendricks, PhD '26, Edwin M. McMillan, PhD '32, Joseph E. Mayer, '32, Kenneth S. Pitzer, '35, William B. Shockley, '32, E. Bright Wilson Jr., PhD, '33, and William G. Young, PhD '29.

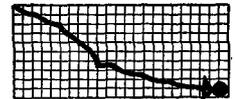
SHAPE Exercise

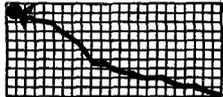
DR LYNN H. RUMBAUGH, PhD '32, President L. A. DuBridge and Professor H. P. Robertson of Caltech's physics department were the only three American civilians participating in a five-day exercise on strategy and tactics, held April 26 to 30 at SHAPE headquarters in Paris, France.

The occasion was one of the periodic exercises held by the staff of SHAPE under Gen. Alfred M. Gruenther. A planning board prepared detailed material on a mythical country, with its own geography, cities, citizens, and customs, which served as the setting for the theoretical military problems that were studied.

Dr. Rumbaugh is associated with the Operations Research Office at Johns Hopkins University.

POWER COSTS ARE WAY DOWN HERE

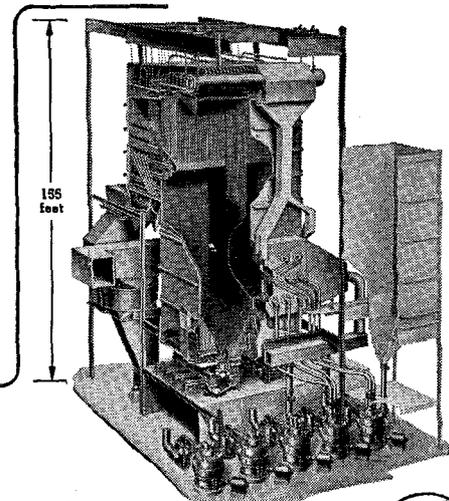


instead of way up here  because ever since 1881, when

Thomas A. Edison  installed this **B&W** boiler



in America's first central station on  in New York, **B&W** has committed men, machines and money to a fruitful, continuing search for better ways to make steam and get more energy from common fuels. Today's power boiler stands this high.



It stands for power progress and the  pledge to keep research and engineering first--to produce even more steam power at lower cost.

