



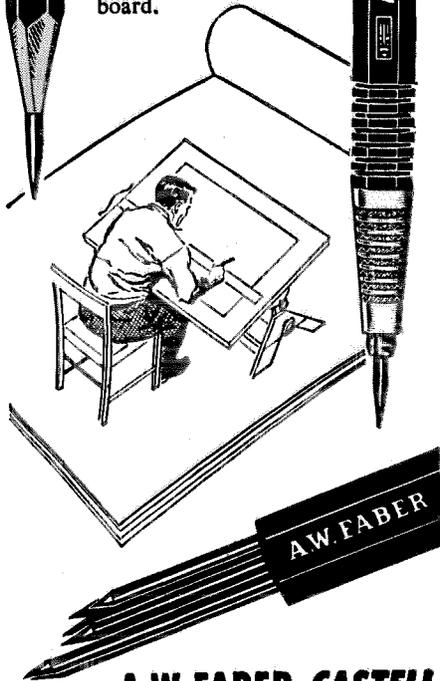
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# Personals

1920

Lloyd E. Towne, office manager of the Worthington Corporation in Los Angeles, died in October, 1956, of muscular dystrophy. He was 62. Lloyd started with Worthington in their Harrison, New Jersey, office in 1920 and came to Los Angeles in 1924 as a salesman, later becoming office manager. He is survived by a son, Roger, who is 20.

1930

Robert W. Wilson, PhD '36, associate professor of paleontology and associate curator of the Museum of Natural History at the University of Kansas, writes that he served as president of the Society of Vertebrate Paleontology in 1955, and spent the academic year 1956-57 in England, as a Guggenheim Fellow, working at the British Museum.

1935

James H. Jennison, MS '36, head of the product engineering division at the Naval Ordnance Test Station in Pasadena, reports that he recently received a superior accomplishment award for a design which cut the cost of a major missile component in half. "All things considered," he writes, "I find NOTS a good place to work and I am proud to be part of the capable organization here. Quite a few Caltech alumni are in key spots here—the most distinguished being our technical director, William B. McLean, '35, MS '37, PhD '39.

"We are just finishing a new house to accommodate our growing family. On September 20 our fourth child was born—a daughter, Wendy Lou. We have two other girls and a boy."

1936

Hugh F. Colvin, senior vice president of Consolidated Electrodynamics Corporation in Pasadena, has been reappointed to the U.S. Chamber of Commerce's committee on government expenditures for 1958-59.

1938

Charles W. Clarke, manager of division planning at the AiResearch Manufacturing Company in Los Angeles, sends along news of the 20th reunion of the class of 1938 which took place in June at the Rodger Young Auditorium in Los Angeles. Here are his notes:

Evan Johnson, president of the American Messer Corporation in Scarsdale, N.Y., won a bottle of bourbon for coming the longest distance to the reunion.

Tom Davis, MS '47, AE '48, senior engineer at the Boeing Airplane Company

*continued on page 51*



## Deep space to ocean floor

This is the span of Advanced Weapons studies at Chance Vought. Activities range from astrodynamics to oceanography.

They include ASW — new methods of undersea detection and classification.

Studies toward space research vehicles and manned spacecraft involve multistaging, space communications, nuclear and ionic propulsion, celestial navigation. A significant result of Vought's new space capability: membership on Boeing's Dyna Soar space glider development team.

### ASW DETECTION SPECIALIST

Physicist or Electronics Engineer with Sonar or electromagnetic detection experience. Familiarity with submarine tactics, equipment highly desirable. To devise new methods for submarine detection, conduct necessary preliminary analyses, and prepare information leading to hardware design for laboratory testing.

### ASTRODYNAMICS SPECIALIST

Physicist, Engineer, or Astronomer with knowledge of orbit calculations and experience in use of digital computers and accurate integration techniques for computing space trajectories.

### GUIDANCE DESIGN ENGINEER

E.E. or Physics Degree, plus 2 or more years experience. To design various active and self-contained missile guidance systems, and to design and develop radar beacons.

### HYDRODYNAMICIST

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Qualified engineers and scientists are invited to inquire.

A. L. Jarrett, Manager,  
 Advanced Weapons Engineering,  
 Dept. CT-2

CHANCE **VOUGHT AIRCRAFT**  
 INCORPORATED DALLAS, TEXAS



## Personals . . . continued

in Spokane, Washington, was runner-up for the prize.

*Bill Nash*, MS '39, PhD '42, assistant manager of operations at C. F. Braun & Company (who made all the arrangements for the reunion meeting room and bar facilities) took an independent poll and found that there were only 9 men out of the group who understood *Engineering and Science*.

*George Holmes*, controller at the Electrodata Division of the Burroughs Corporation in Pasadena, turned out to be the only man who could explain the satellite.

*Roland Stone*, a partner in the Superior Honey Company in Los Angeles, has discovered that the honey he manufactures has turned out to be a catalyst in the development of male hormones.

*Stan Wolfberg*, senior consultant at Benjamin Borchardt & Associates in Los Angeles, is making a time study out at Rose Marie Reid, which includes intimate contact with the models.

*Al Jurs*, vice president in charge of the electrical division of the Shand & Jurs Company in Berkeley, is the most prolific of the '38 graduates, with a family of 6 children.

*Don Clark*, BS '29, MS '30, PhD '34, was unanimously nominated and elected as permanent class father of the class of 1938.

Letters and telegrams came from these absentees:

*John G. McLean*, vice president of coordination and planning at the Continental Oil Company in Houston, Texas: "Sorry I cannot be there. Family: Girl, 4; Boy, 2; Boy, 6 months."

*Frank Jewett*, vice president and member of the board of directors of the Vitro Corporation of America in New York: "Best regards. Sorry I can't be with you. Made necessary business arrangements for trip but it was to wrong coast."

*Paul Dennis*, staff assistant to the general manager of the computer division of the Bendix Aviation Company in Los Angeles: "Greetings to all from Brussels."

*Carl Friend*, department engineer in the aerodynamics department of the Lockheed Aircraft Corporation in Atlanta: "Am trapped in Marietta, Ga."

*Comdr. Dick Forward*, U.S. Navy, writes: "The invitation reached me rather late since it tracked me down an obscure trail of forwarding addresses. I am still in the Navy and am serving at the moment in the Paradise of the Pacific—the Hawaiian Islands. As a matter of fact, my career seems to have developed in a  
*continued on page 53*

# DUNHAM-BUSH

## Engineered VARI-VAC\*

### HEATING SYSTEMS

for FACTORIES • STORES • HOSPITALS

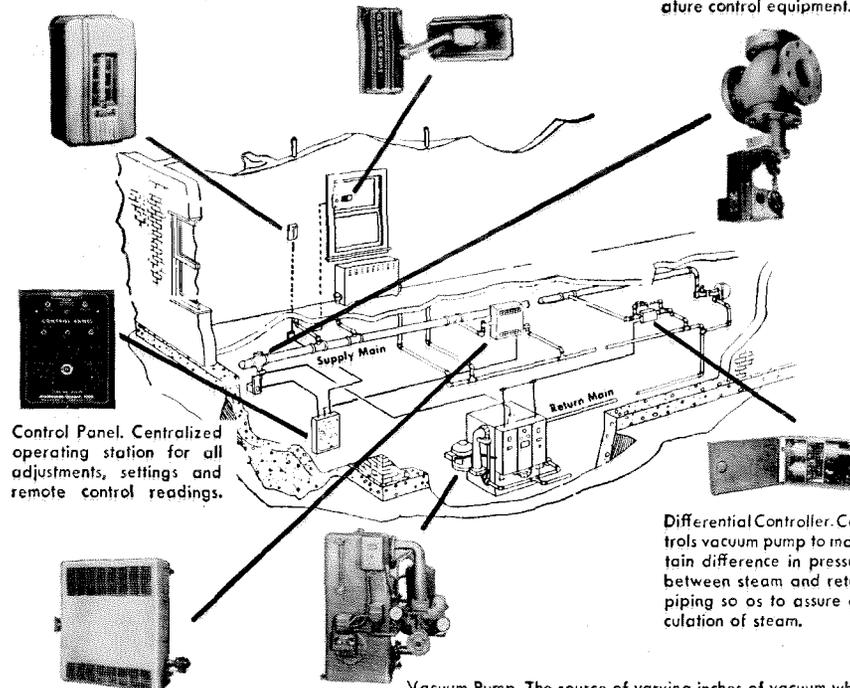
• SCHOOLS • CHURCHES • OFFICES • APARTMENT BUILDINGS

\* The vacuum system which automatically varies the steam temperature

Room Resistance Thermometer. Serves as temperature limit control to prevent overheating and underheating.

Selector. Determines demand for heat by measuring the effect of outside weather conditions and inside building temperatures.

Control Valve. Regulates admission of steam into heating system, as called for by automatic temperature control equipment.



Control Panel. Centralized operating station for all adjustments, settings and remote control readings.

Differential Controller. Controls vacuum pump to maintain difference in pressure between steam and return piping so as to assure circulation of steam.

Heat Balancer. Measures rate of steam flow to system to balance heat input with heat demand.

Vacuum Pump. The source of varying inches of vacuum which assures steam in varying temperatures as required. Also produces necessary pressure differential between supply and return piping to assure quick, complete steam circulation and returns condensate from system to boilers.

You'll find Dunham-Bush Vari-Vac, a precision temperature control system, in many well known buildings such as the New York City Housing Authority and Rockefeller Center's RCA Building.

Steam flows through Dunham-Bush Vari-Vac mains continuously, generally under vacuum, at pressures and temperatures that vary automatically (133° at 25" of vacuum to 218° at 2 lb. pressure) and instantly with outside weather changes and inside heat losses. Vari-Vac effects many advantages including fuel saving and efficient operation.

Specifiers of heating, air conditioning, refrigeration and heat transfer products depend on Dunham-Bush for complete product lines and "one source—one responsibility".

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# DUNHAM-BUSH

REFRIGERATION  
HEAT TRANSFER

## Dunham-Bush, Inc.

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SALES OFFICES LOCATED IN PRINCIPAL CITIES

## Personals . . . continued

rut of rotation between Hawaii and Washington, D.C. We last escaped the home of the Great White Father in August, 1957, and are about nine months along in our stay in Hawaii.

"What am I doing out here? The short title COMBARPAC is a good cover-up. Could imply a corner saloon or an undercover auxiliary for the WCTU. Actually it means: Commander Barrier Pacific, which is the command in charge of the DEW line in the Pacific Ocean Area. I am officially titled Officer in Charge of Operations Control Center. This is a rather elaborate installation in which known traffic is compared with observed, and the unknown is labeled Hostile should the end-run around the DEW Line be attempted. In this unhopd-for event, we will push the first button in this age of pushbutton warfare."

Roger Cowie, geologist in the exploration department of the Shell Oil Company in New Orleans, La.: "I regret that I won't be able to compete for the jug of bourbon - but hope to make the next one 5 years hence. I have been living in south Louisiana since 1948 when I joined Shell, and in New Orleans since 1951. For the last 4 years I have been in charge of geological work in the marine exploration division concerned with oil exploration offshore of Louisiana. Beaucoup oil down here."

1943

David M. Mason, MS '47, PhD '49, has been made professor of chemical engineering and associate executive head of the newly-created division of chemical engineering at Stanford University, where he has been teaching since 1955. Before that, he was an instructor and research group supervisor at Caltech's Jet Propulsion Laboratory.

1945

Robert D. Mason, assistant superintendent of the Muirson Label Company, Inc., in San Jose, Calif., died of acute nephritis and uremia on June 19, 1958, at the University of California Hospital in San Francisco. He had been with Muirson for 12 years. He leaves his wife, Rae, and two children, Nancy and David.

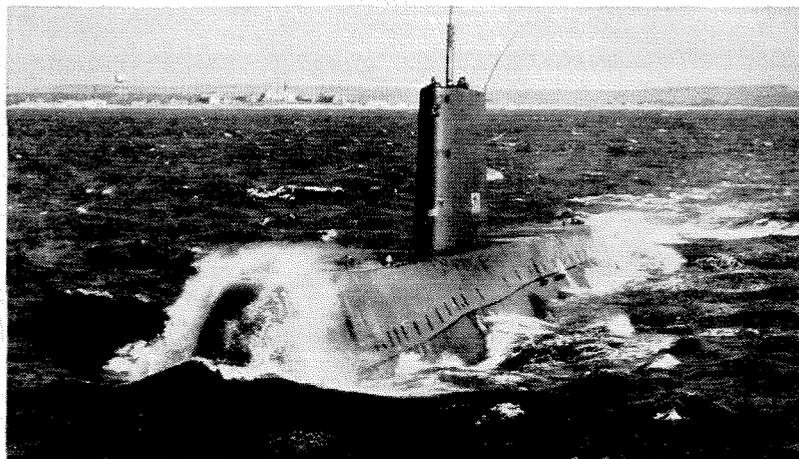
1947

Richard Davis, MS, is now working at the Stanford Research Institute at Palo Alto. He has three children—a boy, 13; a daughter, 4½, and a son, 2½. Dick received his PhD in mathematics at Berkeley in 1955.

Col. William M. Linton, MS, has assumed command of the 151st engineer group of the United States Army Infantry in Fort Benning, Georgia. He has been in the Army since 1955, when he

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## Project S914-7

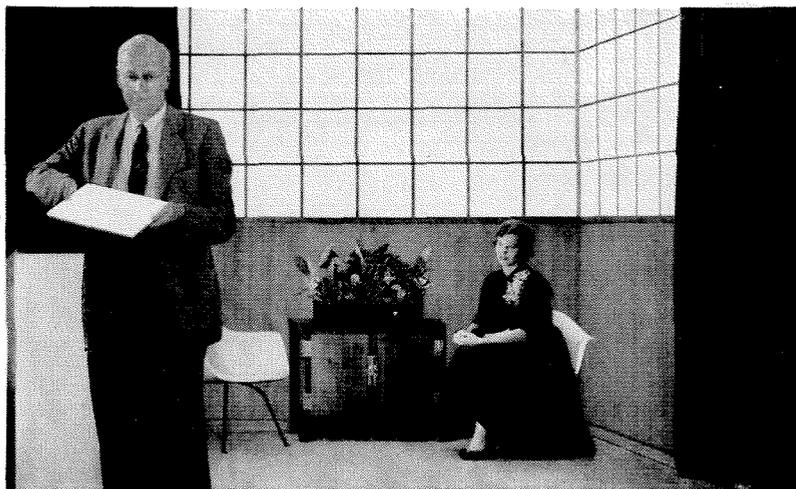


### WESTINGHOUSE DESIGNED REACTOR ON FIRST ATOMIC SUB MAKES NUCLEAR NAVY INEVITABLE

A few pounds of uranium in the *Nautilus* did the work of 3,000,000 gallons of fuel oil. Westinghouse designed and developed the *Nautilus* reactor under the direction of and in technical cooperation with the Naval Reactors Branch of the U.S. Atomic Energy Commission, and is now developing reactors for large surface vessels and more submarines to give the U.S. Navy the world's first atomic fleet.

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## Project W873-5



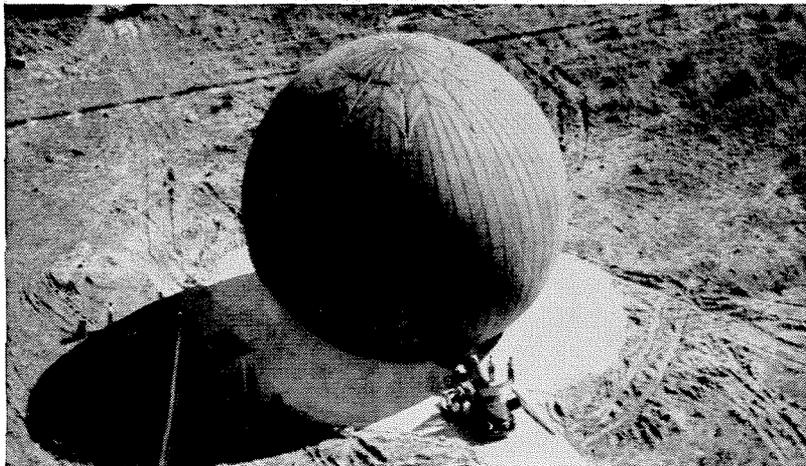
### WESTINGHOUSE DEVELOPS NEW SOURCE OF LIGHT . . . RAYESCENT\* LAMPS

Light in any color flows from wafer-thin panels of glass without the use of bulbs, tubes or fixtures in a new type of light developed by Westinghouse. This picture shows the first room ever illuminated by this RAYESCENT system. Dr. E. G. F. Arnott, Research Director of Westinghouse Lamp Division, holds one of the new RAYESCENT lamps now being marketed.

\*Trademark

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# Project R501-6



## WESTINGHOUSE DEVELOPS MOBILE RADAR TO PROTECT FRONT LINE TROOPS

Inside this inflated balloon-like housing is a full-size transportable radar station that can be brought up behind front lines or dropped by parachute. It can be erected in less than two hours. Its antenna is of inflated fiberglass cloth that looks like a giant lollipop. Major General Stuart P. Wright of the ARDC's Rome Air Development Center which sponsored this development, says this is "a major break-through in ground electronic equipment."

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# Project W545-8



## WESTINGHOUSE DEVELOPS NEW METALS TO HELP CRACK HEAT BARRIER IN JET ENGINES

Tremendous temperatures encountered in jet engines cause loss in mechanical strength of engine parts. Westinghouse scientists are developing new high-strength, high-temperature metals designed to push back this "heat barrier." These new alloys may add 100 mph to a jet's top speed.

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## Personals . . . continued

graduated from West Point. The Lintons have four children—David, 11; Barbara, 6; William F., 4, and Eugene, 1.

*John W. Harrison* received his PhD in English and Speech and English Literature from the University of Colorado in August.

### 1948

*Phillip Eisenberg* is now head of the mechanics branch of the Office of Naval Research in Washington, D.C.

*Paul J. Howard*, plant manager for Procter and Gamble in Baltimore, is the father of three girls—3, 5 and 7 years old.

*Thomas P. Higgins*, MS, has been appointed to head the research and development activities at Lockheed's Missile Systems division plant in Van Nuys. He has been at Lockheed for the past five years and was recently missiles and spacecraft department manager in preliminary design at the Burbank plant. The Higgins' have four children.

*Charles Susskind*, associate professor of electrical engineering at Berkeley, had a stay in Britain and on the continent during the summer with Terry (his fourth child), Pamela, 5; Peter, 3, and Amanda, 1. Charles also does some industrial consulting and, in his spare time, writes a weekly column on music that appears in several papers on the San Francisco peninsula, and broadcasts over KPFA-FM, the Berkeley listener-sponsored station.

### 1949

*Paul H. Kidder* received his MS in engineering at Ohio State University in August.

*Jack N. Nielsen*, MS, PhD '51, is a member of Vidya Associates, a research and development company just started in Palo Alto. Vidya is a group of prominent scientists concerned with research and development in aeronautics, thermodynamics and electronics. The Niensens and their daughter live in Los Altos.

### 1950

*John B. Rutherford*, MS, has resigned his position with the Western-Knapp Engineering Company in San Francisco to open his own office for the practice of structural engineering in Los Altos.

*William F. Jones*, MS, has recently opened a soils engineering practice named Jones, Thenn and Associates in Mountain View, California.

*J. Robert Holmes*, development engineer in reliability engineering at the IBM Corporation in Owego, New York, has been promoted to development engineer in reliability analysis in the systems, evaluation and component engineering department of the company. Bob, his wife, and three sons live in Vestal, N.Y.

## Personals . . . continued

1951

Robert J. Kurland has been appointed instructor in chemistry at the Carnegie Institute of Technology in Pittsburgh, Pa. He received his MA and PhD degrees from Harvard University.

1952

Dr. Ernest R. Cram, MS, writes: "It is always a pleasure to read *Engineering and Science* and I remain very proud of my Caltech degree. The training and practice I received in meteorology aids me in many ways in my general practice of medicine.

"I have three children and am currently president of the local Rotary Club, chairman of the district Boy Scout committee, county coroner, and running for election on the high school board of trustees."

William R. Blake was recently elected president of the Lamicell Engineering Company of Baxter Springs, Kansas. The company has lately completed a thorough retooling program for the production of the Blake Wake-Breaker Water Ski, a fiberglass reinforced-plastic ski which will be announced to the trade in January.

1953

William C. Dueterhoeft, Jr., PhD, associate professor of electrical engineering at the University of Texas in Austin, has taught there for seven years. Last spring he won the \$1,200 Convair award for excellence in engineering teaching for 1958.

1954

Jerry C. Mitchell is now a chemist in the polymer and chemical applications department of the Shell Development Company in Emeryville, Calif. He took his graduate work at Harvard University where he received his MA and PhD degrees in chemistry.

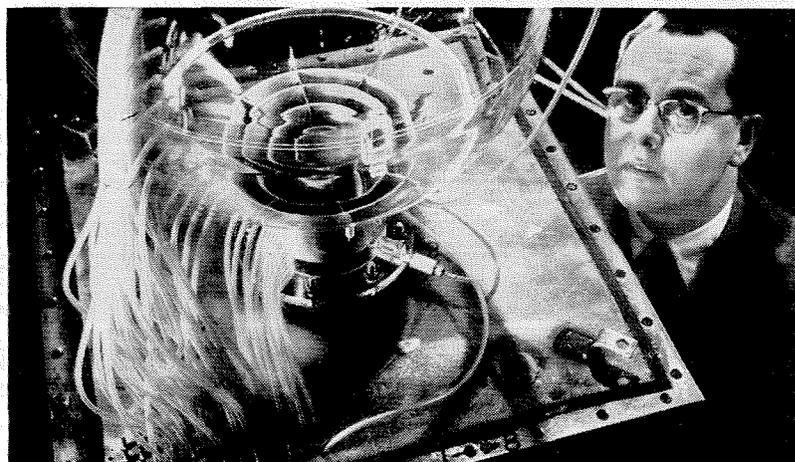
1955

Oscar Seidman, AE, writes that "after absorbing some learning at Caltech, I returned to the Bureau of Aeronautics of the Navy Department in Washington, where I am head of the Aero and Hydro Development Section. I may have to return for a refresher course at Caltech, however, as my daughter, 7, has mastered the anti-gravitational principles of the hula hoop (a Pasadena product) while I have not yet worked out a satisfactory solution."

1956

Alfred K. Orr, Jr., MS, writes from Tripoli in Libya, North Africa: "After leaving Pasadena two years ago, we moved to Tulsa, Okla., where we spent two grand years. We now have two children  
*continued on page 57*

## Project S333-9



### WESTINGHOUSE DESIGNING NUCLEAR REACTOR THAT WILL MAKE ITS OWN FUEL

Westinghouse and the Pennsylvania Power & Light Company are jointly developing the engineering information required to design and operate a "homogeneous" nuclear reactor plant for the generation of electricity. If successful, the companies anticipate the reactor will largely fuel itself by converting thorium into fissionable fuel after an initial charge of enriched uranium. Dr. W. E. Johnson, manager of the project, studies a transparent model of the reactor vessel.

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## Project R246-7



### NIGHT-FLYING PILOTS SEE GROUND WITH DAYLIGHT BRIGHTNESS ON SUPER-TV PERFECTED BY WESTINGHOUSE

The "Cateye" system is so sensitive that it will work with less than one millionth of the illumination used in the television studio. It will make night flying safer for pilots and passengers. This remarkable image intensifier was conceived by the Aeronautics Research Laboratories of the Wright Air Development Center . . . and Westinghouse was asked to perfect it.

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## Personals . . . continued

dren - Lisa, 2½, and Jean, 1. Working with the Ohio Oil Company in Tulsa was very pleasant - our closest friends there were *John Stick, Jr.*, '35, and his wife. A former classmate of *Richard Jahns* (professor of geology at Caltech), John is an engineer at the Lane-Wells Company.

"In July, my company sent me to Tripoli where I am working at the Oasis Oil Company of Libya (a division of the Ohio Oil Company). This is a very strange land - the former home of nine civilizations including Phoenicians, Greeks, Romans, Carthaginians, Berbers and Turks. Once the 'Granary of Rome,' it is now a barren desert with the exception of a narrow coastal area. The Sahara comes right to the sea along most of the coast. Although Arabic is the national language, Italian is probably spoken by more people. English is heard more and more.

"Tripoli is a city of some 250,000 people of which 40,000 are Italian, 20,000 British, and 10,000 Americans. The others are mostly Arab. The streets are narrow and filled with bicycles, small cars and donkey carts. The suburban streets are often crowded with sheep and camels. The first signal lights are being installed, but will probably be useless, since the bicycle riders pay no attention to street signs.

"Thousands of small shops sell everything imaginable. Most of the city is beautiful, especially that built by the Italians before the war. Tropical flowers and date palms are abundant along the streets and in the gardens."

1958

*Robert L. Blakeley*, *Robert S. Deverill*, *Paul C. Minning* and *Dennis G. Peters* are all doing graduate work on Woodrow Wilson Fellowships. Bob Blakeley is at Harvard University working in organic chemistry. Bob Deverill is at Caltech working in physical chemistry. Paul has entered the University of California at Berkeley for work in theoretical physics and Dennis is at Harvard working in chemistry.

*Richard O. Hundley* who is working for his PhD in physics at Caltech, now has a son, Richard William, born on July 25. Dick was married to Jan Vanderzee from Occidental two days after his graduation. He spent last summer working in the research lab at the Hughes Aircraft Company.

*Morrow H. Moore*, MS, is now assistant professor of mechanical engineering at George Washington University in Washington, D.C.

*William Klement, Jr.*, is continuing graduate work in physics at Cornell University on a fellowship from the General Electric Company.

## Project B463-3

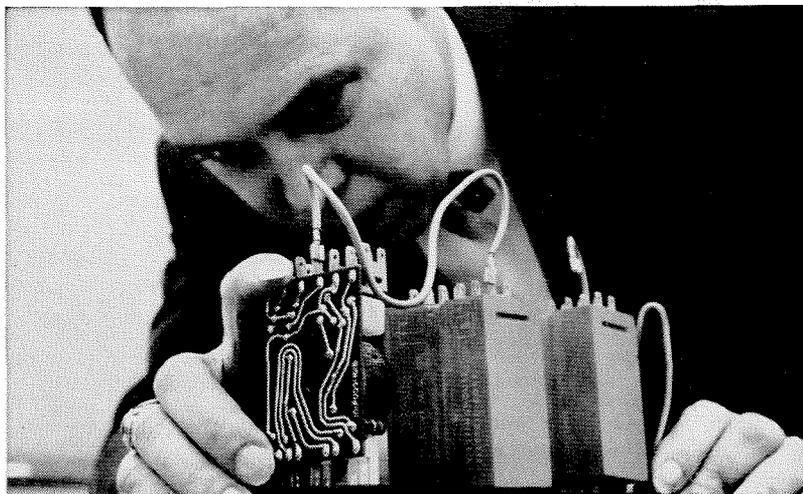


### WESTINGHOUSE OPERATES "FLYING LABORATORIES" TO DEVELOP ELECTRONIC EQUIPMENT FOR THE ARMED FORCES

More than 1,100 in-flight hours were logged in 1957 by the Westinghouse Air Arm Division Flight Test Center in the development of military airborne electronic systems. To carry out the numerous flight development programs, the Air Arm Division employs 35 professional personnel, including five engineering pilots, and 55 technicians.

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## Project R378-5



### WESTINGHOUSE "BRAIN" CAN RUN A FACTORY

This Westinghouse industrial control unit called Cypak® thinks, decides and remembers. It is as small as a candy bar, but in combination with similar Cypak units, it can run a machine, an assembly line, or an entire factory. Cypak has no moving parts to wear out - and thus, for the first time, makes it practical to hook up whole lines of automated machines.

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