TECHNOLOGY REVIEW June 1951



Co-operation with Schools to Stimulate Interest of Graduate Students

To gain valuable industrial experience before starting to study for his Doctor's degree, Robert D. Haberstroh worked at the Westinghouse Research Laboratories during his 1950 vacation. He is shown preparing to run a test on a combustion chamber for a gas turbine. Mr. Haberstroh, a native of Johnstown, Pa., was graduated under the George Westinghouse Scholarship Programfrom Carnegie Institute of Technology last year with a Bachelor's Degree in mechanical engineering.

For more than half a century, Westinghouse has placed major emphasis on co-operating with educational institutions in the process of building men for positions of leadership. It was a pioneer in providing orientation and training programs for newly employed college graduates and in offering all employees opportunities for advanced degree work in co-operation with local universities. It has also been a leader in encouraging higher education in science and engineering through a large-scale program of scholarships and fellowships.

One of the latest additions to this broad program is a plan to co-operate with engineering schools in their advanced work by supplementing technical training with actual research experience.

Through this plan, selected students in graduate schools who are interested in the field of



research are given the opportunity to get practical laboratory experience. During summer months, 10 outstanding students selected from engineering schools are given the opportunity to gain experience in the Westinghouse Research Laboratories.

Working beside seasoned research people, these young scientists gain firsthand experience in industrial research practices and techniques. Besides gaining much practical experience and valuable counsel, they earn while they learn.

Through this co-operation with colleges, Westinghouse hopes to aid students in choosing the scientific field they should enter, and, at the same time, strengthen their foundation for graduate school work.

Westinghouse Electric Corporation, Pittsburgh, Pennsylvania. G-10138

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All but one of the objects in this picture have something in common. They were affected directly or indirectly by the kind of products Norton and Behr-Manning make. Can you find the stranger?

The sink? No! The metal under its porcelain coat was finished by various Norton or Behr-Manning abrasive products before it reached its present form. And its gleaming white surface was baked on by a process that calls for Norton special refractories.

The newspaper? No! Norton pulpstones ground the wood from which it's made. Norton and Behr-Manning abrasive products helped build the press that printed it.

The eggs? Surprisingly, no! Many farmers clean them with Behr-Manning coated abrasives.

Neither is it the oil refinery, the farm tractor, the fire truck, or the woodsman's saw.

The stranger in the picture is the hand-picked wildflower...just as Nature made it. Remember any man-made product...whether of metal, wood, paper, cloth, leather, ceramics, or plastics... depends on abrasives, abrasive products, refractories, or grinding machines that bear such well-known trade-marks as Norton and Behr-Manning...world's largest manufacturers of abrasives and abrasive products.



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Graver welders at work on field erection of nickel-clad chemical tanks.

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THE TABULAR VIEW

Merchant Marine. - Under present circumstances, the nation's merchant marine needs vessels of such design as to be capable of rapid production in large quantities and of greater speed than the Liberty and Victory ships which carried a large part of cargo on ocean lanes during World War II. A review of the U. S. Maritime Administration's program for building such a fleet is described (page 407) by Edward L. Cochrane, '20. A graduate of the United States Naval Academy, as well as of Technology, Admiral Cochrane has had a distinguished career in naval and educational circles. He holds honorary doctorate degrees from the Hahnemann Medical College and the Polytechnic Institute of Brooklyn, is a knight commander, Order of the British Empire, was awarded the Grand Cordon by China, and is a member of the National Academy of Sciences and the United States Naval Institute. He served on the staff of the Commander Scouting Force of the United States Fleet from 1933 to 1935; between 1935 and 1939, was administrator for the Bureau of Construction and Repair; served as naval attaché at the American Embassy in London; became chief of the Bureau of Ships in 1942; and subsequently was appointed chief of the material division, United States Navy. He became head of the Institute's Department of Naval Architecture and Marine Engineering in 1947, and is now on leave to serve as Maritime Administrator.

Impressive Implement. - A major contribution to the Institute's educational and research facilities will be dedicated during a three-day symposium on hydrodynamics to be held on June 4 to 6. First of the major projects to be completed by funds raised during the recent Development Fund Program, the new Hydrodynamics Laboratory provides extensive laboratory facilities for teaching and research in hydrodynamics. The new laboratory is an impressive implement, indeed, whose purpose, planning, and utilization are described (page 399) by Professor ARTHUR T. IPPEN of the Department of Civil and Sanitary Engineering, Director of the Hydrodynamics Laboratory. Native of London, Dr. Ippen was graduated from the Technical University of Aachen, Germany, in 1931, and then became exchange fellow at the Institute of Hydraulic Research at the University of Iowa. He was teaching and research fellow at the California Institute of Technology from 1934 to 1937, from which institution he received the M.S. and Ph.D. degrees in 1935 and 1936, respectively. He joined the faculty of Lehigh University in 1938, and became a member of the Technology Faculty in 1945 as associate professor, and in 1948 he was promoted to full professor.

Towing Tank. — Completed a few months ago, the Institute's Ship Model Towing Tank has been in use by students since last February. The tank, a significant portion of the Hydrodynamics Laboratory, will be dedicated at a symposium on June 4 to 6. Interesting features of the tank are described (page 404) by MARTIN A. ABKOWITZ, Assistant Professor of Naval Architecture. Professor Abkowitz received the S.B. degree in Naval Architecture from M.I.T. in 1940 and the M.A. degree in physics in 1949 from Harvard, where he is a candidate for the Ph.D. degree. During World War II he was an officer in the United States Army, and from 1946 to 1949 was physicist at the David Taylor Model Basin in Washington, working on problems of ship control.



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Eric Martin Wunsch, II, '44

Jim Beach, II, '50

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MAIL RETURNS

More M.I.T.

FROM WESLEY HALLIBURTON, '92:

Two volumes of The Review lie on my table, but one must search inside the volumes to determine if they are a scientific school publication or just a technological publication. Why not the following on the cover?

M.I.T.

Technology Review – July 1951

I feel a high sense of values in the work that M.I.T. is doing. I consider it the greatest technological school of the day, including the world. *Memphis*, *Tenn*.

Instruments Intact

FROM THOMAS DOANE PERRY, '00:

I have read with great interest the article "The Blasted Bore" in the January Review, particularly as I seem to be the family member on whom have been wished most of the data relating to the genealogy and history of the clan. The family story of the Hoosac Tunnel, to which a certain amount of pardonable luster has been added in the retelling through the generations, runs about as follows:

My grandfather, Thomas Doane, was employed as chief engineer in October, 1863, shortly after the project had been taken over by the state. He reduced to a straight line the earlier curved course that had been projected, and completed the survey with two specially made transits, more accurate than had been previously available. Grandfather was a determined individualist of keen insight, and resigned in 1867, because of the meddlesome political control – a control which became so intolerable, that a private contractor was engaged late in 1868. After six years in railroad building in the West, grandfather was re-employed on the Hoosac Tunnel by the private contractor, Shanly. He ran the first engine through the tunnel in 1875.

The two transits, used for tunnel alignment, are preserved: one at the Blue Hills Observatory, near Boston; and the other at Doane College, Crete, Neb., where it is mounted and available to verify sidereal time. *Moorestown*, N.J.



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It is only natural that the people of Union Carbide pioneered in the production of allethrin on a commercial scale. For they were already making most of the needed chemical ingredients. As a result, the people of Union Carbide are already providing allethrin in ever-increasing quantities to manufacturers of household and dairy sprays. And researchers all over the country are now engaged in testing its value for the control of agricultural pests and for other purposes. Other Union Carbide chemicals are important ingredients in many other insecticides and fungicides. One or more of them may have a place in your future plans.



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JUNE, 1951

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