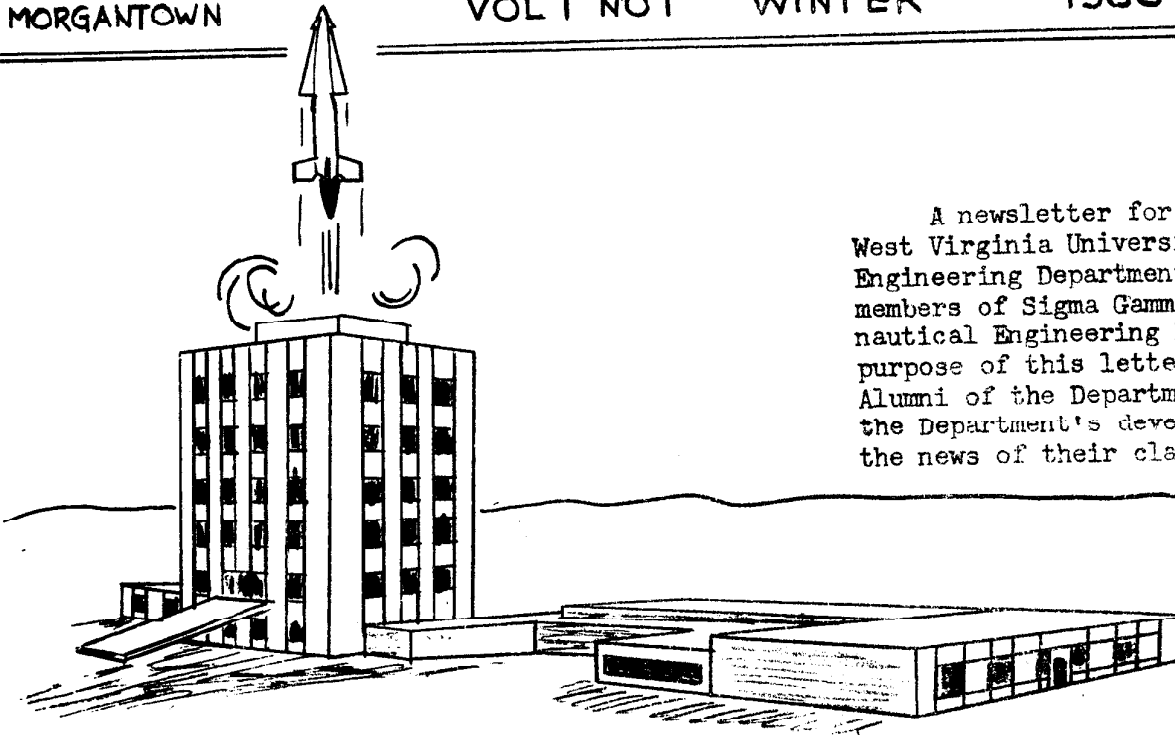


# THE MOUNTAINEER MISSILE

MORGANTOWN VOL I NO I WINTER 1960 - 1961



A newsletter for graduates of the West Virginia University Aero-Space Engineering Department prepared by the members of Sigma Gamma Tau, Aeronautical Engineering Honorary. The purpose of this letter is to keep Alumni of the Department informed of the Department's development and of the news of their classmates.

TO THE AERONAUTICAL AND AERO-SPACE ENGINEERING ALUMNI:

It gives me a great deal of pleasure to see this first newsletter on its way to you. I sincerely hope that you will be pleased to receive it. By indicating your interest and with your editorial help this can be a continuing project containing the news you want.

The Sigma Gamma Tau boys, with Professor Ulrich's help, have done a fine job on this first issue. I want to add that the dedication of the new engineering buildings is scheduled for Friday, October 6th. Why not plan to be here for this ceremony -- and the football game on the following day.

We are very proud of our new facilities and of the recently instituted graduate program on which we expect to concentrate during the next few years. While financial problems still limit our staff and salaries, we have made good progress since 1948. We expect no less for the future. Under the leadership of Dean Arents, the College of Engineering is certain to develop an enviable national reputation.

We would like to hear from each of you, at least with your current addresses but also with

news for our next issue.

Sincerely

L. Z. Seltzer

## THE DEPARTMENT FACILITIES

On June 13, 1956, disaster struck the University. Fire of undetermined origin destroyed Mechanical Hall and all equipment within, causing a loss valued over \$1.4 million. Since the State Legislature had already approved the sale of bonds for constructing a new engineering campus earlier in the spring, plans and work on the new plant were accelerated.

The new campus is at Evansdale, just across the road from the University Arboretum and  $1\frac{1}{2}$  miles from the main campus. The Engineering Sciences Building consists of a 110 x 90 foot, eleven story tower, resting on a 480 x 150 foot, three-story base. Besides the Engineering Building, an

Agriculture Building, an Agricultural Engineering Building, Aerodynamics Laboratory and Propulsion cell have been constructed on the new campus. These buildings will house all of the engineering and agriculture departments. However, only junior, senior and graduate classes will be scheduled at these facilities. The freshman and sophomore classes will continue to be given on the main campus.

The engineering buildings were completed by February 15, 1961. Then installation of equipment was begun. The first students will attend classes on the new Campus in the fall of 1961.

In the spring of 1959, a severe windstorm literally raised the roof of the Airport hangar. Several doors fell into the building causing a loss of one Piper PA-18 airplane. This strong wind also strained the wind tunnel building causing a subsurface failure. Settlement of the building required immediate disassembly of the low speed tunnel and supersonic tunnel, which was under construction, to prevent damage to the equipment, etc., due to distortions. These tunnels will be housed in the Aerodynamics laboratory on the new campus.

The main offices of the department in the new building will be on the ground floor of the North wing of the building. Here will be found offices of the department Chairman, staff and graduate assistants, and conference rooms. There is a large structures laboratory, lecture rooms, design room and dark room in this area of the main building.

The Aerodynamics laboratory will contain the 250 mph tunnel and the new 4 x 5 inch continuous operating supersonic tunnel for Mach numbers to 1.5. This latter is powered by four 150 H. P. compressors. Two smoke tunnels (a 6 x 6 inch and a 24 x 24 inch) will also be installed for low speed research. The machine and model shop, a dark room, and research rooms complete this building which is immediately to the rear of the main Engineering Building.

About 200 feet from the Aerodynamics laboratory is the propulsion cell. This, when completed, will provide a facility to conduct research in the propulsion field. It consists of an instrumentation room and a firing cell.

Flying continues at the Airport. At present, there are six aircraft, a helicopter and a jet in the Hangar. Two Piper PA 18's, one each Cessna 140, 150 and 170, are used in flight instruction and a Cessna 182 is used for the flight test course. The helicopter and F-84F were obtained as surplus property. The latter will be dismantled for use as a structural test vehicle.

#### CHANGES IN THE CURRICULUM

In keeping with the changing times and the growing interest in space satellites and space travel, as well as the defense emphasis on missiles, the name of the Aeronautical Department has been changed to The Department of Aero-Space Engineering. The degree now conferred upon graduates is the Bachelor of Science in Aero-Space Engineering. Suggested during the first semester, 1959, the title of the Department became official with the beginning of the second semester, February 1, 1960.

The curriculum of the Department has also followed the trend toward an emphasis in space. New courses required of undergraduates include AE 223, Aero-Thermodynamics, and AE 224, Reaction Engines. Deleted from the required list, but still available as electives are AE 217, Aircraft Structures Design, and ME 229, Internal Combustion Engines.

Another change in the undergrad curriculum concerns the inspection trip and AE 205, Experimental Aerodynamics, both of which have been moved from the last semester to the first semester of the senior year.

Other electives available to undergraduates are Applied Aerodynamics, Aeroelasticity, Aircraft Propulsion, and a course on Principles of Guided Missile Design.

Courses available in the 300 series for graduate students, are Dynamics of

viscous Fluids, Internal Aerodynamics, Advanced Analytical Aerodynamics, Gas Dynamics, Instrumentation and Techniques of Supersonic Flow, Dynamics of Trajectories, Dynamic Loads, Materials and Theories of Failure, and Advanced Aircraft Structures.

### OF PEOPLE AND THINGS

The Department of Aero-Space Engineering has continued to grow since its inception in the mid-forties as an option of the Mechanical Engineering Department. The first class in Aeronautical Engineering, graduated in the spring of 1948, consisted of two members, one was a woman, incidentally. In January, 1961, the Department graduated two engineers, and in June, 1961, a class of 20 Seniors will receive their diplomas. The junior class consists of 21 undergraduates; there are 46 members of the sophomore class, and a group of 45 freshmen have entered the Department.

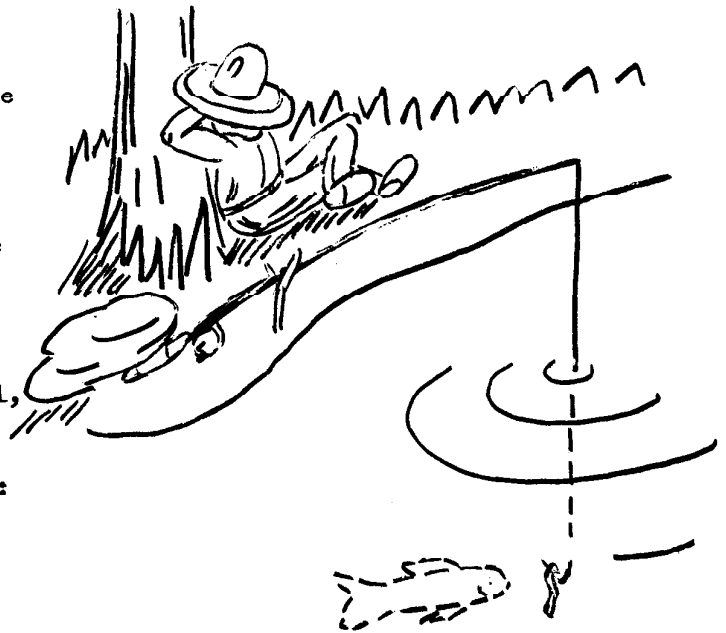
At present, the staff consists of L. Z. Seltzer, Chairman, B. H. Ulrich, Jr., and R. E. Walters. Dr. B. T. Hnatiuk resigned September 1, 1960, and is presently at Drexel Institute of Technology in Philadelphia. The Aero-Space personnel at the Airport includes the following: Jonathan Bennett, Chief Flight Instructor, Joe Wolfe and Ed Mood, Flight Instructors, and Claude Murphy, Machinist and Technician.

Mr. Richard E. Walters, a graduate in AE at W. V. U. in 1956, returned as part-time instructor and graduate student in 1959. After graduation, he was employed by the Bell Aircraft Corporation as an Aerodynamicist. He served in the Air Force from November, 1956, until July, 1959, as a Test Project Engineer at the Air Proving Ground Center, Eglin AFB, Florida. In September, 1960, he was appointed full-time Instructor in the Department, and is continuing his graduate studies.

The first graduate student to complete the requirements for the Master of Science degree is Lu-Chung Chang. Mr. Chang received the degree of B. S. in AE in 1948 at the National Northwestern Engineering College at Shensi, China. Following graduation, he worked with the Research Center of the Chinese Air Force for three years. In 1953, Mr. Chang was recommended by the Academic Council of the Chinese Ministry of Education as

a qualified college instructor of Analytical Mechanics, and taught at the Taiwan Provincial Institute of Technology until 1959, when he matriculated at W. V. U.

Two members of last year's (1960) graduating class are continuing their studies here at the University under Engineering Experiment station grants. These graduate students are Cornelius Jubeck, Morgantown, and Bob Walter, Charleston.



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