

**THE**  
**MORGANTOWN**



**MOUNTAINEER MISSILE**

VOL 2 NO 1

WINTER

1961-1962



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.

Dear Aero Alumni:

I look forward with much pleasure to this opportunity to "talk" to each of you a few times a year. I am, personally, very pleased with your reaction to the Mountaineer Missile.

As of now, we have two major problems that are still with us. The first of these is the perennial problem of getting enough money and appointments for staff, which is followed by the difficulty of finding people to fill these positions. Our second problem has to do with curriculum changes, which we are now in a position to consider.

We have delayed making any major curriculum adjustments because we knew that there were some imminent changes due on a college-wide basis. It now appears that new entrance requirements will include two full years of algebra plus trigonometry, so that it will be possible for us to start Freshmen with a short review, and then go directly into integrated analytical geometry and calculus. We also anticipate a change in the physics requirement. This may involve a change in the classical physics approach, as it was taught in the past, but I am quite sure that all of the curricula will contain an appreciable amount of modern or micro physics. As for our own curriculum, discussions include the possibility of adding to our curriculum in the form of mathematics, heat transfer, additional electrical theory in the area of fundamental circuits and electronics and missile mechanics. We are also playing with the idea of arranging the curriculum

with greater elective possibilities, so that the students might choose between a terminal course, or a more scientifically oriented program pointed toward future graduate study.

We hope that our new curriculum may become a reality by September, 1962. In the meantime, we will welcome any comments or suggestions that you may care to make. I hope that you will send your ideas to us soon.

With kindest regards,

*L. Z. Seltzer*  
L. Z. Seltzer

**MATADOR MISSILE (B-61) LANDS IN AERO-SPACE ENGINEERING STRUCTURES LABORATORY.**

A Matador Missile has joined the growing fleet of aircraft to be used for structural loading projects. Professor Ulrich received this surplus missile from the Martin Company.

Various sections of this missile will be used in structural investigations by undergraduate and graduate students. The wing and stabilizer sections are of honeycomb construction which will make interesting projects for static and dynamic loading studies.

The B-61 was one of our nation's first operational short range missiles. Squadrons of the B-61 were stationed in Europe as early as 1950. It is powered

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by a jet engine with rocket-assist-take-off. The Matador is now being replaced by the Martin Mace which is powered by a solid propellant rocket motor.

## OF PEOPLE AND THINGS

## William Squire Joins Department

William Squire, of San Antonio, Texas, has been appointed a professor in the Aero-Space Engineering Department. Professor Squire held the position of Senior Research Engineer with the Southwest Research Institute, San Antonio, as a specialist in gas dynamics and combustion.

Mr. Squire is the author of a number of technical articles which have been published in professional journals. These include original works in gas heating, turbulent flows, combustion, and the applications of higher mathematics. He holds membership in the Institute of Aerospace Sciences, American Physical Society, the Society for Industrial and Applied Mathematics and The Combustion Institute. He received his B. S. degree in Chemistry at the City College of New York, and the M. A. degree in Mathematics at the University of Buffalo. He has been employed at Bell Aircraft Corporation, Buffalo, N. Y., the Cornell University Aeronautical Laboratory, and the National Bureau of Standards.

Professor Squire, with his wife, Lurline Scott Squire, and two children, Mary DeCourcy Squire and Ralph Henry Squire, presently reside on Willey Street.

## Our New President

The University Board of Governors has named Dr. Paul Miller to be President of the University. He succeeds Elvis Stahr, Jr., who resigned to accept the position of Secretary of the Army in President Kennedy's Cabinet. Dr. Clyde Colson, Dean of the Law School, has been acting president since Dr. Stahr left

Morgantown.

Dr. Miller, a native of East Liverpool, Ohio, is a 1939 graduate in Agriculture from the University. In his senior year, he was captain of the Varsity boxing team. He will be coming to the University about 1 February from the position as Provost at Michigan State University, where he has been on the staff since 1947.

Dr. Miller served in the Army Air Corps (1942-1945) with the Air Transport Command in South America, Africa and India, with the rank of 1st Lieutenant. He received his M. S. ('47) and Ph. D. ('53) degrees in Sociology and Anthropology at Michigan State.

The inauguration of our new President will take place on April 11, 1962.

## Robert W. Walter ('60)

Bob is the second student to fulfill the requirements for a Master's degree in Aero-Space Engineering. He is now working at Boeing, Seattle, on the fatigue problems encountered by supersonic transports.

In November, Bob completed the requirements for his Master's degree. Bob's project consisted of the design and construction of a low cost cyclic loading fatigue machine. This machine consists of solenoid valves, high pressure tubing, hydraulic pump and jack, and adjustable timer. This permits a predetermined set of load levels to be programmed and applied to a test specimen. Total cost of the machine was approximately \$400.00.

## ENGINEERING DEPARTMENTS ACCREDITED

The visitation to the campus by the Engineers' Council for Professional Development (ECPD) team this past spring has resulted in re-accrediting all engineering programs for an additional three years. This was announced October 9,

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1961, when the results of the inspection were received by the University. Accreditation means the various programs meet minimum standards for engineering schools. It included surveys of space, faculty, course content and programs of study at the undergraduate levels.

Quoting from the report for your information concerning Aero-Space Department: "The University of West Virginia is to be congratulated on the enthusiasm and dedication of its Aero-Space Engineering faculty. This faculty is thoughtfully and conscientiously administered. However, it is badly understaffed . . . The Aero-Space curriculum is suitably well balanced from the standpoint of basic sciences, engineering sciences, engineering design and analysis, and humanities. However, it is somewhat antiquated. It is important that such areas as shop work, drawing, descriptive geometry, detail design, be de-emphasized in order to make way for such topics as modern physics, additional mathematics, heat transfer, orbit mechanics, material sciences, etc. Further it would be in order to devote more attention to missile design and missile systems . . . "

Prof. Ben Ulrich, Jr., was elected vice-chairman of the American Society for Engineering Education's Aeronautical Division at the annual meeting at the University of Kentucky during the past summer. He also is continuing as Editor for the division of the Journal of Engineering Education. He has stepped (thrown) out of city politics, no longer being a Morgantown City Councilman, after serving two terms.

Prof. Lee Seltzer was appointed program chairman for the ASEE's Aeronautical Division. He is arranging programs with the IAS in New York and the annual meeting at the Air Force Academy in June.

## SENIOR INSPECTION TRIP

Members of the Aero-Space Engineering graduating class of '62, the first class scheduled to graduate from the new engineering campus, and their sponsor, Professor Ben H. Ulrich, Jr., left Morgantown October 12, 1961, for the annual senior inspection trip. The trip included a tour of North American Aviation in Columbus, Ohio, and of the Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio. A two-hour tour was also taken of the Air Museum at Wright-Patterson Field.

The main point of interest at North America's "problem" plant in Columbus was the assembly line of the airframe division. Here, the members of the senior class viewed the assembly of the Navy's Vigilante (A3-J) Mach 2 all-weather interceptor-fighter. Another point of interest was the propulsion test section which, at that time, was under repair to provide extra sound-proofing for the testing of rocket engines. The Columbus division of North American is the supply depot for the rest of the company dispersed throughout the States. The seniors were conducted on their tour by Bob Howard ('50), in charge of structural design, and Ted Oyler ('52).

The evening of 12 October, 1961, was spent as the seniors pleased. The city of Dayton was found to be a very clean city with quite an attractive collection of the feminine species. Many of the seniors visited highly cultural spots, such as The Music Box and Ye Olde King Cole Tavern, while a few of the younger, inexperienced set were educated at the Burly-Q. In all, the entire evening in Dayton was a most enjoyable experience.

The tour of the Aeronautical Systems Division at Wright-Patterson was started with well rehearsed lectures from members of each division, such as ionic propulsion and Operation Dyna-Soar. Two of the lecturers were WVU Aero-Space graduates, Robert Pinnell ('61) and Arnold

Riffle ('60). The seniors also talked to Fred Thomas ('60), who is working in vibrations and flutter. The lectures were followed by tours. One tour of particular interest was that of the structures lab, which, during the war, was increased to enormous size capable of handling the B-36. At the time of the visit, structural tests were being run on the F-104, F-105 and the B-58 "Hustler". Tests had just been completed on the F-102. Another point of interest was the acoustics labs, where destructive tests were made by amplified sound waves on aircraft wing sections. The gas dynamics lab was visited just as a "blow-down" had been completed on a model. The interesting thing here was the construction of the wind tunnel test cross section where Mach numbers up to 20 could be obtained for an instant while varying tunnel cross section.

After this tour, approximately two hours were spent at the Air Museum. Items of interest were: a replica of the Wright Brothers plane, a Spad, Japanese Kamakazie craft, Russian Mig, B-36 and B-24. The first German jet (ME-121), the B-29 plane which dropped the A-bomb on Nagasaki, the F-86 which shot down five Migs during WW II and Korean Police Action, and a prop from the B-24 "Lady Be Good".

In all, and very much to the surprise of Professor Ulrich, the seniors of '62 proved themselves to be gentlemen and ambassadors of the University. The entire trip was very enjoyable.

#### A COMING FEATURE

Beginning with the next issue of the Mountaineer Missile, we hope to include a personal resume of each graduate based on the year of graduation. The first group will be for those who obtained their degrees prior to 1952. Then each year we will include the resume as a diamond anniversary of the class.

#### LOST CONTACT

We have lost contact with the following graduates. There was a good response to our last similar appeal. If anyone knows their addresses, please send them to us.

D. Ray Borst '59  
Emmette G. Wilson '54  
Ronald Coleman Curry '56

#### HOLIDAY GREETINGS TO ALL OF YOU FROM

L. Z. Seltzer  
W. Squire  
B. H. Ulrich, Jr.  
R. E. Walters  
Miss Julia Bierer  
Claude Murphy  
J. M. Bennett  
E. E. Mood  
J. F. Wolfe  
E. D. Casseday  
D. N. Brant

