

inger, assistant professor of physics, and Carol G. Montgomery, associate professor of physics. The scientists are planning to use the new accelerator to study four major problems:

1. A study of new products produced by nuclear transmutations which convert one element into another.

2. How a fast electron behaves near the nucleus of an atom, and how an electron gets out of the nucleus.

3. Production of powerful X-rays by stopping fast electrons suddenly.

4. How are fast electrons absorbed in matter.

Science News Letter, February 28, 1948

AERONAUTICS

Guide V-2 Rocket's Flight

➤ A NAZI-BUILT V-2 rocket with an American-made control system is the first of the much-heralded guided missiles.

The V-2 was successfully maneuvered in flight for the first time at the White Sands, N. Mex., Proving Ground. Signals radioed from the ground sent the rocket to the right and left and up and down.

Control is achieved by a device which receives the radio signals and activates the gyroscope which steers the rocket.

As developed thus far, the guided V-2 is still a far cry from the guided missiles which have been proclaimed to be the weapons of the future. But this flight marked the first known success at controlling any portion of a rocket flight from the ground. Months ago, the same system was sent on a "dry run" flight, in which radio signals were received and

sent back by the equipment in the rocket. On that flight, the rocket was not guided in its path, but the radio system was tested. The present flight was made possible by the successful testing which assured that the radio signals would be received by the equipment aboard the rocket.

Rocket experts of the Armed Forces emphasize that the V-2 flight was only a first step toward a guided missile. But they point out that the simple maneuvers are an important control development. The supersonic-speed rocket cannot be made to perform the dives and turns of a small airplane.

Whether or not the controlled V-2 will stand up as the first American guided missile is a problem for historians. Cloaked in secrecy are other missiles, some of which may be guided.

Science News Letter, February 28, 1948

NUCLEAR PHYSICS

A. E. C. Offers Fellowships

➤ THE urgent need for men and women equipped to fight radiation danger and to man expanding atomic energy programs has led the U. S. Atomic Energy Commission to establish fellowships for training qualified persons in atomic medicine and biology.

Selection of candidates and administration of the program will be carried out by the National Research Council, with the A. E. C. financing the program, establishing operating policies and training goals. For the first year of the program approximately \$1,000,000 has been budgeted.

The program is expected to continue for about five years. About 75 fellows each year will be physicians and doctors of philosophy in the biological sciences. Their fellowships will be for two years. In addition, the program calls for 100 fellows who are graduates of colleges or universities but without advanced de-

grees, to take one year of training in health physics.

Because the A. E. C. wants its fellows spread widely over the country, selection of universities for fellowship training will depend in part on geographical location. Fellows will have a certain amount of latitude, however, in selection of institutions for their training.

The A. E. C. will have plenty of jobs in its own installations for the men and women after their training, Dr. Shields Warren, A. E. C. interim director for medicine and biology, stated. However, fellows will not have to agree to work for the Commission.

Health and safety of atomic energy workers can be maintained, he declared, with the trained personnel for this work now on hand. But expansion of the atomic energy program will require more of these specially trained workers. And a considerable number of research

fields which should be explored cannot be at present because of the shortage of personnel.

Very important for the future world food situation, Dr. Warren and his associate, Dr. John Z. Bowers, pointed out, is the matter of using radioactive substances for improved utilization of now scarce fertilizer materials. Preliminary investigations indicate, for example, that it may not be as necessary to lime soil as has been believed. Further studies, with tagged atoms, of the uptake by plants of different types of substances may lead to better uses of fertilizers.

Finding how long an insecticide spray will hang onto a leaf may be determined

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