ROCKETS AND MISSILES

U.S. Forces Race in Space

➤ IN THE RACE for space, the United States now appears to be competing with itself as well as with the USSR.

The internal competition is between the National Aeronautics and Space Administration and the U.S. Air Force, both of whom have scored major successes in space in recent weeks.

The civilian agency has to its credit the launch and recovery in its Project Mercury program of the chimpanzee in a sub-orbital flight down the Atlantic Missile Range, the achievement of the solid-fuel firing of the Scout satellite, the successful Atlas shot of the Mercury capsule designed for man in space. These are, at least, matched by the Air Force solid-fuel Minuteman shoot, the Samos satellite, the orbiting of two more Discoverer satellites and the redirecting in space of Discoverer XXI.

The Air Force Discoverer program now is virtually operational.

The Discoverer successes were followed by rumors that the Air Force might attempt an orbit and recovery with an ape.

A success of this magnitude in space could make a monkey of the sub-orbital launch and recovery of a Mercury astronaut planned for early this spring.

The civilian and military achievements raise serious questions about the validity of the current division made both by the Administration and the Congress between the civilian mission of our efforts in space and military defense.

All satellite launches, whether for military or non-military objectives, call for the same technological prerequisites. NASA's Project Mercury must make use of the Air Force's Atlantic Missile Range launching and tracking facilities.

Even purely scientific data from a meteorological or communication satellite will provide essential information for space utilization in the interests of defense. And all of the Air Force probes have yielded important scientific data.

In view of the mounting costs of space exploration, it may be argued that the rule of "divide and conquer" is not applicable in space and can only lead to needless delay in U.S. efforts to match and outstrip the spectacular firsts of the Soviet Union.

This conflict has extended even to interservice rivalry in the defense establishment with the Navy also making a bid for space.

Orderly, long-range and imaginative planning under unified command appear to be required if the waste of self-competition is to be avoided.

• Science News Letter, 79:151 March 11, 1961

ROCKETS AND MISSILES

Ionosphere Probe Readied

➤ THE IONOSPHERE Beacon Satellite S-45, planned to take a better look at the peaks and valleys of the ionosphere, is scheduled for a second try after it failed to orbit when launched the first time.

The satellite, which looks very much like Explorer satellites VII and VIII, will travel to an orbit of 1,600 miles at apogee (point farthest from earth) and 240 miles at perigee (point closest to earth). The satellite is expected to complete an orbit every 116 minutes.

So far, little is known about the ionosphere, the ionized fringe area at the top of the earth's atmosphere from 50 to several hundred miles up.

Long-range communications and weather forecasting would be aided by data from the ionosphere.

The 74-pound satellite will transmit on six frequencies at varying levels of power. Ground stations will analyze the signals by various methods such as change in polarization or Doppler shift.

If the S-45 goes successfully into orbit, it will be numbered in the Explorer series by the National Aeronautics and Space Administration to indicate that it has joined the other U. S. satellites that so far have contributed to the world's knowledge of space.

Several universities in the United States and New Zealand are participating in this satellite experiment, trying to find out more about the structure of the ionosphere.

The launch vehicle for the S-45 is the Juno II, a 60-ton three-stage rocket used before in seven launch attempts, including the Pioneer III and IV radiation space probes, the Explorer VII radiation satellite and the Explorer VIII ionosphere satellite. The S-45 satellite will be launched from Cape Canaveral.

• Science News Letter, 79:151 March 11, 1961

GENERAL SCIENCE

Physicist Named to Atomic Energy Body

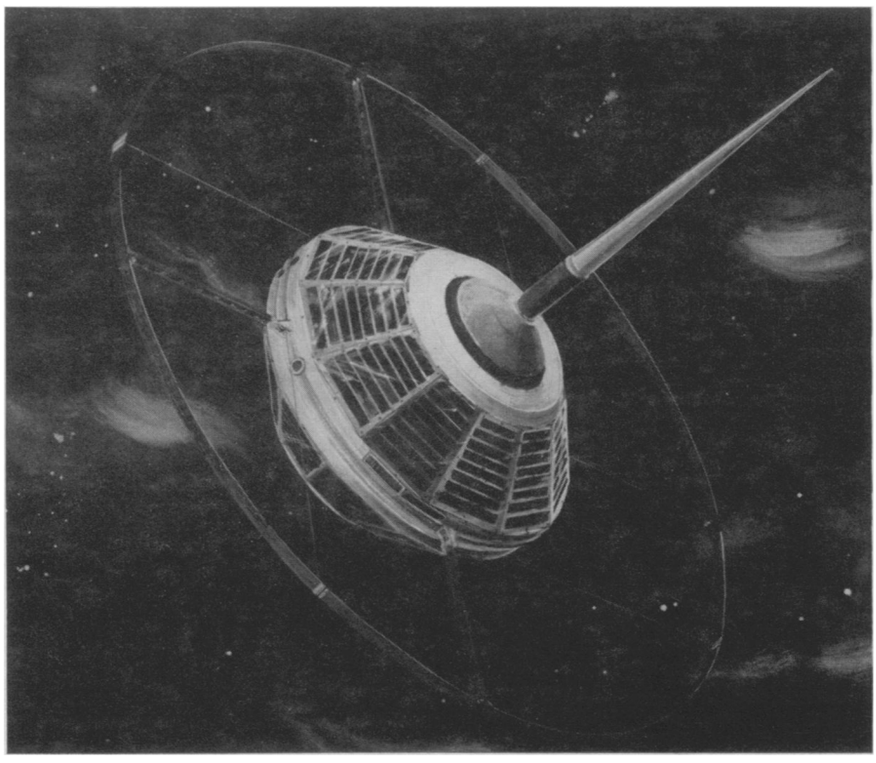
➤ THE FIFTH MEMBER of the Atomic Energy Commission has been named by President John F. Kennedy. He is Dr. Leland J. Haworth, director of the Brookhaven National Laboratory, Long Island, N. Y.

The 56-year old nuclear physicist is an authority on the design of high-energy atom smashers and has been director of the AEC's Brookhaven Laboratory since 1948.

He was named president of the Associated Universities Inc., last December. This is a group of Eastern universities operating the Brookhaven Laboratory and the National Science Foundation's National Radio Observatory in Green Bank, W. Va.

Dr. Haworth's appointment places three scientists on the AEC. The other two scientists are chemists, Dr. Glenn T. Seaborg, Nobelist as chairman, and Dr. Robert E. Wilson. This is the largest scientific representation on the AEC in 15 years. The other AEC members are lawyers.

• Science News Letter, 79:151 March 11, 1961



EXPLORER-TO-BE—Beacon satellite S-45 will explore the ionosphere.