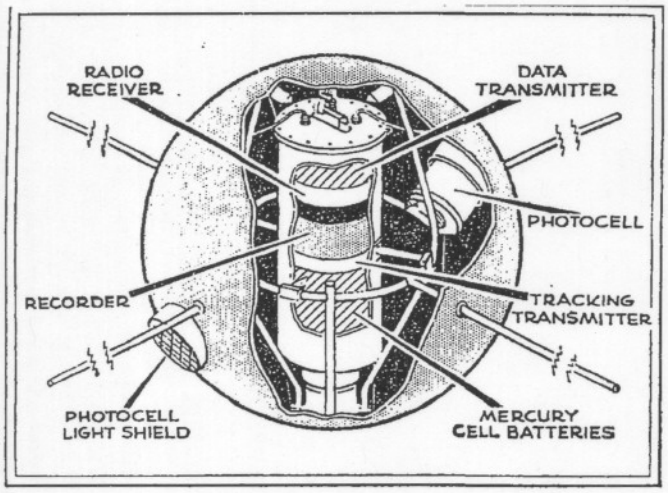
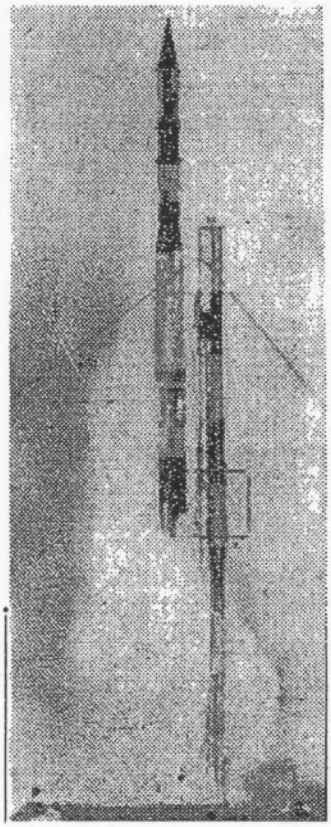
Rocket Launches a Weather-Observation Satellite



The New York Times Feb. 18, 1959

Drawing shows some of the instruments enclosed in the 20-inch satellite. They are designed to provide first pictures taken from space of the earth's cloud cover.



Associated Press Wirephoto

Vanguard rocket rises from its pad at Cape Canaveral.

VANGUARD FIRES SATELLITE IN ORBIT TO SCAN WEATHER

Vehicle Tops Expectation in Placing First Meteorology Observatory in Space

EISENHOWER HAILS FEAT

Sphere Functions Well on First Trip Around Earth on Cloud-Cover Study

By JOHN W. FINNEY
Special to The New York Times.

WASHINGTON, Feb. 17—The United States launched into orbit today a scientific satellite that will serve as man's first weather observation station in space.

The 21½-pound spherical satellite, 20 inches in diameter, was launched from Cape Canaveral, Fla., by the Navy's Project Vanguard, which had put only one satellite into orbit in several attempts.

A few hours after the launching at 10:55 A. M., Eastern standard time, officials of the National Aeronautics and Space Administration predicted here that the satellite would remain aloft for decades and perhaps even for centuries.

Inside the satellite was scientific equipment designed to provide the first pictures of the earth's cloud cover from the vantage point of space. The experiment was prepared at the Army's Signal Research and Development Laboratory at Fort Monmouth, N. J., by a team of scientists headed by William G. Stroud Jr.

Eisenhower Praises Team

For the Project Vanguard team the successful launching was a moment of triumph and vindication after several humiliating failures. By its success Project Vanguard opened a new era in research that could lead to more accurate forecasts and

perhaps eventually control of the weather.

Through Dr. T. Keith Glennan, head of the National Aeronautics and Space Administration, President Eisenhower sent his personal congratulations to the Vanguard team.

It was President Eisenhower who, in July, 1955, announced the controversial decision to give the Navy's Project Vanguard the assignment of launching some half dozen scientific satellites as the United States contribution to the International Geophysical Year.

Seven times during the I. G. Y. Project Vanguard tried to

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U. S. Fires Satellite Into Orbit as First Weather Post in Space

VANGUARD'S SHOT TOPS EXPECTATION

Orbit Higher Than Foreseen as Vehicle Starts Study of Earth's Cloud Cover

Continued From Page 1, Col. 8

launch satellites into space to recapture some of the national prestige lost with the launching of the Soviet satellites. Six of the Vanguard launching attempts ended in internationally publicized failure. Only a small, 3.25-pound test satellite was placed into orbit last March.

Last October the seemingly ill-starred Project Vanguard was transferred from the Naval Research Laboratory to the newly formed space agency. At the same time, the three-stage launching rocket underwent a detailed engineering examination to determine the source of its repeated malfunctions. As a result, certain minor changes were made in the rocket.

Higher Than Expected

Today the slender, seventy-two-foot rocket performed in excess of expectations, sending the glistening satellite into a higher orbit than had been originally planned.

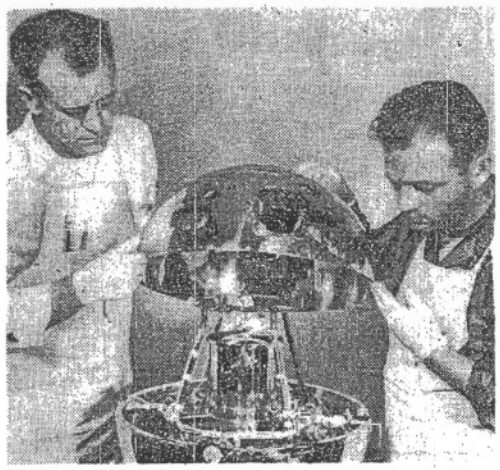
The initial calculations were that the satellite was traveling in an orbit with a low point—or perigee—of 335 miles and a high point—or apogee—of 2,059 miles. At speeds ranging from 14,000 to 18,000 miles an hour, the satellite is revolving around the earth once every 126 minutes.

With such a high orbit, the satellite was destined for a long life before being finally slowed by the drag of air. The wide variations in the predicted lifetime sprang primarily from inexact knowledge of the density of matter in the near vacuum of space.

The satellite was promptly named Vanguard II (the earlier test satellite was Vanguard I). Within the scientific community the satellite will be known as 1959 Alpha.

With Vanguard II, the United States has now launched six earth satellites, compared to three by the Soviet Union. But in terms of scientific payloads placed into space, the Soviet Union still has a decided advantage.

More Practical Promise.



Associated Press Wirephoto

PREPARING A SPACE STATION: Technicians at Army's Signal Research and Development Laboratory in Fort Monmouth, N. J., lower cover onto satellite similar to one launched yesterday at Cape Canaveral, Fla.

Of the scientific satellites [illegible] thus far. The information from the photo-cells was being stored on a tiny tape recorder and then transmitted on command to ground receiving stations around the world.

On its first pass around the world, the experiment was reported [illegible] information" received by the Minitrack tracking station at San Diego, Calif.

The satellite was expected to continue sending cloud cover data for about two weeks before the mercury batteries powering the radio transmitter and the tape recorder were exhausted.

May Detect Typhoons

The satellite was expected to furnish little immediate information for weather forecasting, although it may be able to spot typhoons and hurricanes spawning over the oceans. Dr. Hans Ziegler, director of the Astro-Electronics Division at the Fort Monmouth Laboratory, predicted that it might be two weeks before Army scientists would be able to process the data and reconstruct the first space pictures of the earth's cloud cover.

For the future, however, Space Administration scientists foresaw more advanced meteorological satellites that would be able to give instantaneous global readings on the earth's clouds, temperature and humidity and relay the information around the world through a system of communications satellites.

Even though Project Vanguard failed to meet its original deadline of launching a scientific satellite during the recently concluded International Geophysical Year, Vanguard II was being handled as an international scientific experiment in space.

The National Academy of Sciences relayed immediate word of the launching to all nations that participated in the I. G. Y. and said that all information obtained by the satellite would be shared with other nations.