



When the Wo

On the first Friday evening in October 1957—50 years ago this month—the American nervous system got an enormous jolt. The shock came from news reports about Sputnik, a beach ball-sized silver sphere that had just begun whizzing through space at 18,000 mph, orbiting Earth every 96 minutes. It was man’s first satellite, and it was not American. It was Soviet.

This was a stunning and historic achievement. It was also disturbing, recalled Roger D. Launius, the former chief historian of NASA and now chairman of the Division of Space History at the National Air and Space Museum. “Words do not easily convey the American reaction to the Soviet satellite,” Launius wrote. “The only appropriate characterization that begins to capture the mood ... involves the use of the word hysteria.”

The world was caught off guard by the USSR’s Oct. 4, 1957 launch of Sputnik. People were fascinated by the object described as “an elegant ball ... antennae thrown back like a galloping horse.” Its beeping signal, clearly audible to ham radio buffs around the world, mystified scientists and lay persons alike. It had a menacing air, and it went on for weeks.

At first, President Dwight D. Eisenhower and his administration made light of Sputnik, calling it “a silly bauble” and “a neat scientific trick,” but they drastically misjudged the public, which feared it as a Pearl Harbor-type event. Americans saw Sputnik as proof of a Soviet power to launch nuclear warheads at US cities. In London, the *Guardian* claimed, “The Russians can now build ballistic missiles capable of hitting any chosen target anywhere in the world.”

The fear also focused on America’s status. In beating Washington to the punch in space, the Kremlin really hit us where it hurt—in our technological

On the morning of Oct. 5, 1957, the New York Times (above) gave Sputnik “second coming” treatment. The actual launch (below) came a few hours earlier, at 10:28 p.m. (Moscow time) Oct. 4, 1957, at the Baikonur Cosmodrome in the Kazakh Soviet Socialist Republic.



Image via Trumanlibrary.org

via sovfoto.com

Sputnik Shocked World

With the success of Sputnik 1, the Space Age was born, and the Space Race was about to begin.

ego. Sputnik instantly catapulted the Soviet Union onto the world's scientific top shelf, raising doubts about America's own standing. For Premier Nikita Khrushchev, it was a tremendous propaganda coup, greatly enhancing the USSR's image. This effect was intensified by subsequent Soviet space successes and spectacular American failures.

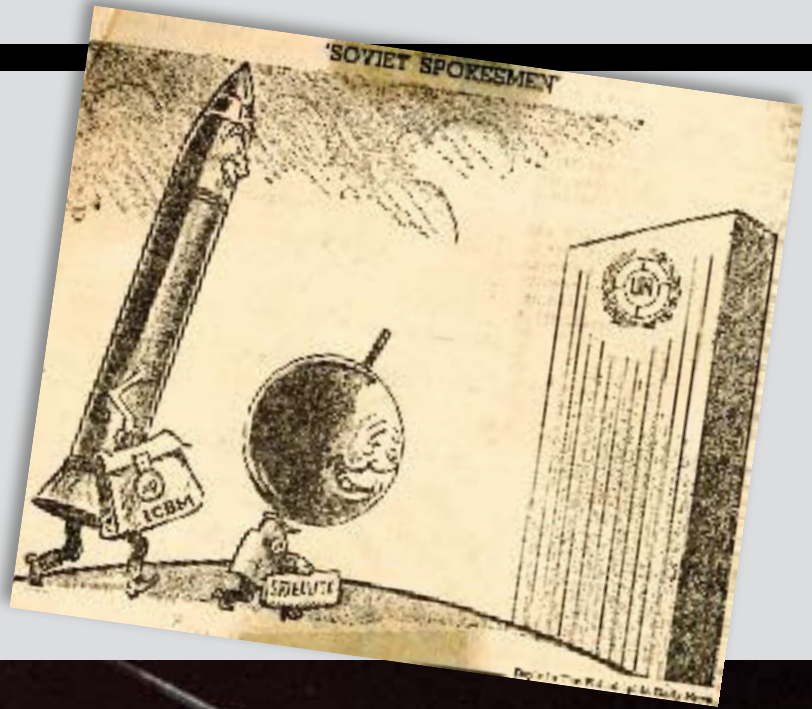
That Sputnik had a dramatic and lasting effect on this nation is by now well known. After initial soul-searching, the US embarked on a massive and determined space effort. The Pentagon formulated a huge program. On the civilian side, newly created NASA did the same. The aerospace industry exploded. Colleges were flooded with new engineering students eager to take up the Russian challenge. Public education turned hard toward math and science curricula. Sputnik may have started the Space Age, but America created the Space Race. Soon, the US was to leave Moscow in the dust.

The passage of 50 years has effaced much of the Sputnik imprint. Indeed, from the vantage point of 2007, 1957 looks like a kind of lost world. The Soviet Union itself no longer exists. No one fears Moscow's space program. The United States long has been, and is today, the world's undisputed technological giant, and it will be for a long time to come. The march of socialism, so fearsome in the 1950s, ground to a halt long ago.

We herewith present archaeological evidence of this lost world. It's hard to believe it ever existed, but it did.

—Robert S. Dudley

The military aspect of Sputnik was grist for numerous cartoons, such as the one above. Right: Soviet technician tweaks the actual spacecraft shortly before launch.



via sovfoto.com





NASA photo

Above: "Exploded" view of satellite.
 Right: Typical cartoon lambasting Washington's excuse-making.

Sputnik Aftershock—It Was a Tough Year

- Oct. 4, 1957.** USSR launches Sputnik 1.
- Nov. 3, 1957.** USSR launches Sputnik 2, with dog Laika.
- Dec. 6, 1957.** US Vanguard explodes on launchpad.
- Jan. 31, 1958.** US launches Explorer 1, first US satellite.
- Feb. 3, 1958.** USSR tries, fails, to launch Sputnik 3.
- Feb. 5, 1958.** Vanguard fails for the second time.
- March 17, 1958.** US successfully launches Vanguard 1.
- April 28, 1958.** Vanguard fails for the third time.
- May 15, 1958.** USSR launches Sputnik 3, components fail on orbit.
- May 27, 1958.** Vanguard fails for the fourth time.
- June 26, 1958.** Vanguard fails for the fifth time.
- Sept. 26, 1958.** Vanguard fails for the sixth time.



Sputnik Specs and Stats

- Name:** Sputnik 1
- Meaning:** Satellite
- Operator:** Soviet Union
- Launch:** Friday, Oct. 4, 1957
- Re-entry:** Jan. 4, 1958
- Diameter:** 23 in
- Weight:** 184 lb
- Shape:** spherical
- Material:** polished aluminum
- Transmitters:** two radios
- Antennas:** four whip-type
- Apogee:** 559 mi above Earth
- Perigee:** 155 mi above Earth
- Speed:** 18,000 mph
- Orbit Period:** 96 min
- Total Orbits:** about 1,400
- Launch Vehicle:** R-7
- Site:** Baikonur Cosmodrome
- State:** Kazakh S.S.R.

Soviet Premier Nikita Khrushchev.



Bettman/Corbis photo

Losing Ground

LBJ Aide George E. Reedy: "It took them four years to catch up to our atomic bomb and nine months to catch up to our hydrogen bomb. Now we are trying to catch up to their satellite."

How Moscow Broke the News

"Tass Report"
Pravda, Oct. 5, 1957
Moscow, USSR

As a result of very intensive work by scientific research institutes and design bureaus, the first artificial satellite in the world has been created. On Oct. 4, 1957, this first satellite was successfully launched in the USSR. According to preliminary data, the carrier rocket has imparted to the satellite the required orbital velocity of about 8,000 meters per second. ...

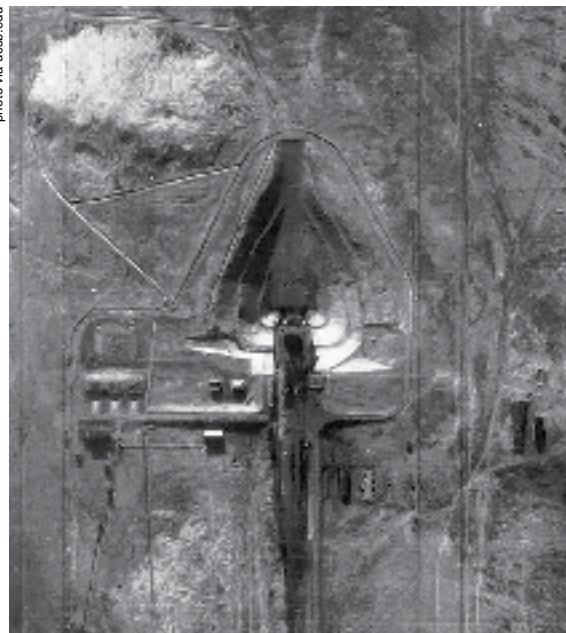
According to calculations which now are being supplemented by direct observations, the satellite will travel at altitudes up to 900 kilometers above the surface of the Earth; the time for a complete revolution of the satellite will be one hour and 35 minutes; the angle of inclination of its orbit to the equatorial plane is 65 degrees. On Oct. 5 the satellite will pass over the Moscow area twice—at 1:46 a.m. and at 6:42 a.m. Moscow time. ...

The satellite has a spherical shape 58 centimeters in diameter and weighs 83.6 kilograms. It is equipped with two radio transmitters continuously emitting signals at frequencies of 20.005 and 40.002 megacycles per second (wave lengths of about 15 and 7.5 meters, respectively). The power of the transmitters ensures reliable reception of the signals by a broad range of radio amateurs. ...

There are no data at present for the precise determination of the satellite's lifetime and of the point of its entry into the dense layers of the atmosphere. Calculations have shown that owing to the tremendous velocity of the satellite, at the end of its existence it will burn up on reaching the dense layers of the atmosphere at an altitude of several tens of kilometers. ...

The successful launching of the first man-made Earth satellite makes a most important contribution to the treasure-house of world science and culture. The scientific experiment accomplished at such a great height is of tremendous importance for learning the properties of cosmic space and for studying the Earth as a planet of our solar system. ... ■

photo via ucsb.edu



Above: Sputnik launchpad (snapped by a US Corona spy satellite in early 1960s). Below: After Sputnik, Khrushchev took bows around the world for months.



via sovfoto.com

Listeners at a Moscow radio control post monitor the incessant "beep beep beep" electronic signals pouring out of Sputnik.

High Moment

When Sputnik successfully entered Earth orbit and its radio signal was heard around the globe, R-7 chief rocket designer Sergei Korolev exulted: "I've been waiting all my life for this day!"



AMONG LOCAL radio amateurs listening for signals from Russia's orbiting man-made moon is W. G. Williams, 322 N. Greenwood Ave. May

radio hours to the wire are small in on the proper frequency, but were reported having a signal.

W9VRC

Hams Here Listen For Space 'Talk'

Local ham radio operators kept a listening vigil to try and signal from Russia's orbiting earth satellite. One amateur reported that he might have heard it early Saturday.

Chief Pilot of 317 M. Stank A night engineer at St. Mary's hospital, said he saw something flash through the gray morning sky last morning before dawn.

Pilot said that just before he had heard it he had heard it in the bedroom about the same time.

While glancing toward the ceiling he saw a light streak high speed from west to east across the sky from horizon to horizon.

Scientists, however, say the satellite object is expected to circle earth in a north-south orbit.

The local amateur radioer, W. G. Williams, 322 N. Greenwood Ave., said he has been trying periodically to try and hear the radio signals emanating from the satellite.

Williams said he "might have heard it" once but he could not be sure.



Above: Sudden and rude awakening was a common theme among political cartoonists. Left: President Eisenhower speaks shortly after the Sputnik surprise.

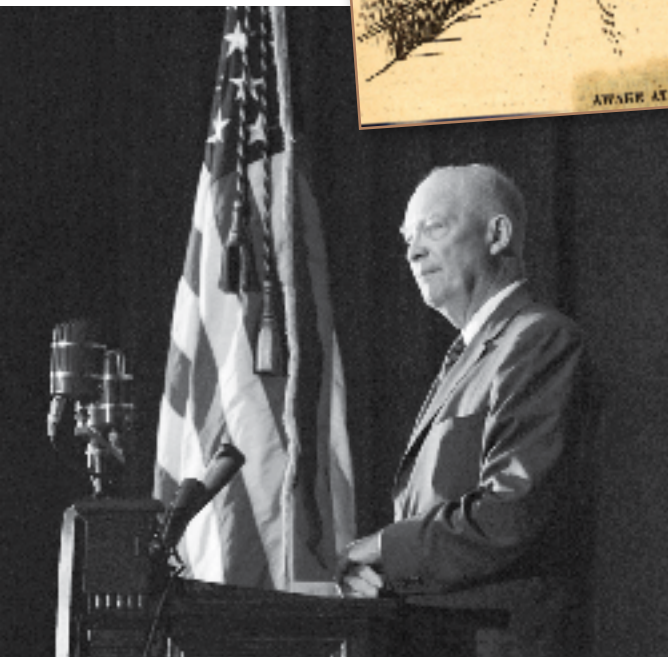


Photo by Wally McNamee/Corbis



Left: Illinois newspaper covers the local "beep" phenomenon. Above: R7 booster (number 8K71PS) hours before blastoff. The R7 began life as an ICBM, but achieved its greatest fame as a launch vehicle.

photo via sovfoto.com

His Verse Was Worse

Sputnik moved some to jeers, some to fears, some to grim determination. It moved Michigan Gov. G. Mennen Williams, a Democrat, to poetry. Here, he throws a veiled jab at President Eisenhower, whom he evidently viewed as an amiable golf-playing slacker:

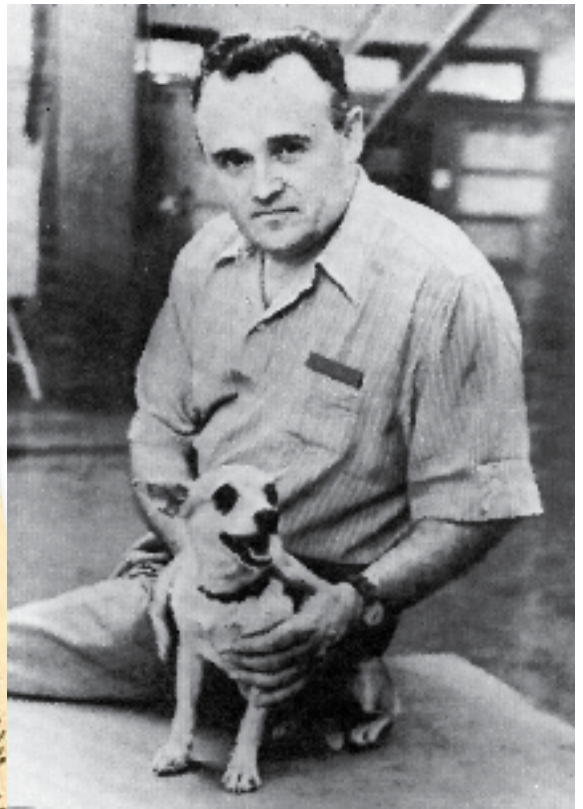
*Oh little Sputnik, flying high
With made-in-Moscow beep,
You tell the world it's a Commie sky
and Uncle Sam's asleep.
You say on fairway and on rough
The Kremlin knows it all,
We hope our golfer knows enough
To get us on the ball.*



Commemorative stamp. In its upper left corner: "4 October 1957." Lower right corner: "First in the world Soviet artificial Earth satellite." Bottom: "40 kopeks, Mail USSR."

What Do You Get When You Cross Sputnik With Jack Kerouac?

Herb Caen, a columnist with the *San Francisco Chronicle* and former Army Air Forces airman in World War II, was inspired by Sputnik when he coined the term "beatnik" in an April 2, 1958 story about the so-called Beat Generation of writers and artists.



NASA photo by Asif Siddiqi

Left: Cartoons reflected US technological fears. Above: Sergei Korolev, head of the project, in 1954. He holds a dog that just returned from a suborbital flight.

via National Air and Space Museum



Shock and Awe at the Ranch

Sen. Lyndon B. Johnson, the Texas Democrat who would become President, recalled his reaction: "Now, somehow, in some new way, the sky seemed almost alien. I also remember the profound shock of realizing that it might be possible for another nation to achieve technological superiority over this great country of ours."

Soviet test pilot Marc Gallai:
"Today, after decades have passed, we simply cannot imagine the first Sputnik to be anything other than what it was: an elegant ball ... with antenna thrown back like a galloping horse."

Reading About Sputnik

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