

House Committee Testimony

Oral Statement

16 July 2019

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"The Legacy of Apollo: What We Get Wrong"

Ladies and gentlemen of the Committee, thank you so much for the chance to speak today, on the anniversary of the launch of the first Apollo mission to land on the Moon.

I want to take you back briefly to the late 1950s and early 1960s. That was a time when the Soviet Union was absolutely crushing the United States when it came to achievements in space.

The Soviets launched the first spacecraft of any kind — that was Sputnik in 1957.

Then the Soviets launched the first animals to space, the first probe to the Moon, the first human being into space — that was Yuri Gagarin.

They would go on to launch the first female astronaut, and the first spaceship with two people in it, and do the first spacewalk, with a cosmonaut leaving the spaceship.

In the spring of 1961, President Kennedy had become frustrated with seeing one Soviet "space spectacular," as he called them, after another. As he told his senior aides, "Coming in second in space is the same as losing." Kennedy didn't think the United States should be losing.

The Soviet space spectacles were having a significant impact in shaping world opinion during the Cold War. People and nations around the world didn't just think the Russians were challenging the U.S. in engineering and technology, people thought the Soviets were better than the U.S.

Kennedy asked for a plan not just to get ahead, but to "leap frog" the Soviets.

His advisors agreed: The way to re-take the lead, vividly and boldly, was to take America to the Moon.

Privately, before Kennedy announced the goal, NASA told him the odds of making it to the Moon and back, safely, by the end of the decade were just 50/50. It was a bold plan, but also a risky one.

Kennedy knew that simply announcing the mission, rallying Americans to that cause, would change those odds dramatically in favor of success.

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When Kennedy said, Let's go to the Moon in May 1961, it was impossible.

There was no rocket big enough to fly to the Moon, no spaceship that could land there, no computer small enough and powerful enough — anywhere in the world — that could fly a spaceship to the Moon.

In just eight years, NASA and the people working with NASA solved 10,000 problems — they invented space travel, they pushed the technological limits of everything from rocket engines and spacesuit design, to computing power and the management of a vast battalion of 410,000 people, working toward a single goal.

Because that's what it took to go to the Moon — the work not just of the astronauts, which is so well known and so well told. But the work of 410,000 people back on Earth, for just 11 missions — more people working to get those astronauts to the Moon than were fighting in Vietnam three years of the war.

Going to the Moon was the biggest project, outside of war, human beings have ever undertaken.

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But the results were more than spectacular.

Every Moon mission was a success. Even Apollo 13, which was a near disaster, was turned into a success by the determination and ingenuity of the staff on the ground, and the astronauts in that crippled spaceship.

Apollo was, in fact, a government program that came in on time, on budget, scandal-free — and was a stunning, worldwide achievement.

But here's the most important thing: Apollo was not a one-off performance, a brilliant show to end the 1960s.

Apollo's legacy is incredibly important, and we mostly get the legacy wrong. It has nothing to do with Tang and Velcro.

The legacy is much richer and much larger than Apollo gets credit for. Apollo didn't end up launching the Space Age as it was imagined then. Apollo did something much more important, right here on Earth.

The spaceship computers that flew Apollo to the Moon were the smallest, fastest, most nimble computers ever created at that time —

they not only did the job, they did it perfectly. Their development for the race to the Moon dramatically accelerated the digital revolution — both deep inside the computer industry, and across American society. It helped create the world we all live in today.

Apollo laid the foundation, not for the Space Age, but for the Digital Age.

We got a lot more than digital technology from Apollo — it transformed our scientific understanding of the formation of both the Earth and the Moon. It inspired a generation of young people to become scientists and engineers and computer programmers.

And yes: It also taught us how to fly in space.

The 50th anniversary of Apollo 11's first landing on the Moon should not be swaddled in nostalgia. It should be a moment to step back and reassess what we actually got from going to the Moon — and to appreciate it.

The idea that going to the Moon was an expensive Cold War stunt is mythology. It's unworthy of the achievement, of the people who made it happen, and of the problems they solved.

Americans literally did something in eight years that had been impossible — they worked together, during a hugely divisive era, to make the impossible possible. That is the spirit of America, and also the best of the America. We love to rise to the occasion.

Perhaps the most important legacy of Apollo is to be reminded that Americans will solve the hardest problems that are put to them. They just have to be asked.

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