We Were Promised Space Colonies. What Went Wrong?

Rocket scientists of the 1950s had a vision of humanity's imminent first chapter in space. After more than half a century of ups and downs, we might finally be on course

By Wilson Rothman
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I was an 11-year-old at Space Camp when I realized I was never going to space. This was July 1986, just six months after the space shuttle Challenger exploded on live TV, taking the lives of seven astronauts. The mood at the U.S. Space & Rocket Center in Huntsville, Ala., was understandably somber. NASA, still investigating the O-ring failure that caused the tragedy, hadn't slated any new missions. We were astronauts-to-be with no plans for liftoff. We ate freeze-dried Neapolitan ice cream, posed for pictures next to massive rockets, rode in a giant centrifuge and went home.

The shuttle program began again in 1988, eventually launching the Hubble telescope and many pieces of the international space station. But it suffered another fatal crash in 2003 and ceased operation in 2011.

"The shuttle was a remarkable achievement in what it could do but it was supposed to be routine and affordable and it ended up being neither of those," says John Logsdon, professor emeritus at the Space Policy Institute at George Washington University. "It was too risky and too expensive."

There was a time when our move into space seemed inevitable. According to Wernher von Braun, the rocket scientist from Nazi Germany who became a leader of the U.S. space program, humankind was due to take up residence beyond Earth five decades ago. "Within the next 10 or 15 years, the Earth can have a new companion in the skies, a manmade satellite which will be man's first foothold in space," von Braun wrote in "Crossing the Last Frontier," part of a celebrated Collier's magazine series on space travel that began in 1952. "Man Will Conquer Space Soon," the cover proclaimed.

In von Braun's vision, shiny, reusable space shuttles would shoot into orbit almost daily. The first wave of brave souls would piece together a huge wheel-shaped space station. The 80 men—and

only men—on board would subsist on frozen vegetables and T-bone steaks (deboned to save rocket fuel). The gentle spinning of the station would provide artificial gravity; the helium-oxygen atmosphere would make everyone inside talk like Mickey Mouse. The station would serve as a hub for manned missions to the moon and, eventually, Mars. None of this was technologically farfetched. But none of it has so far come to pass as von Braun predicted.

Scientists drew up plans for space exploration, but politicians had to fund them. After the Soviet Union put the first human in space, President

In the early 1950s, space program pioneer Wernher von Braun released his plan for an 80-man space station, supported by reusable space shuttles. He believed it could be operational in orbit by the mid-1960s. PHOTO: COLLIER'S MAGAZINE/JTE MULTIMEDIA

Kennedy was determined to plant the first flag in lunar soil. "We choose to go to the moon," he told the world in 1962.

"Some might suggest that the Kennedy decision was the worst decision ever," said Roger Launius, author of the forthcoming "Apollo's Legacy: Perspectives on the Moon Landings" and NASA's chief historian from 1990 to 2002.

We made it to the moon a decade sooner than von Braun expected, but at a cost that essentially bankrupted the space program. At roughly $150 billion in today's dollars, the Apollo moonshot remains the most expensive single peacetime project of the U.S. government, according to Prof. Logsdon.

Richard Nixon was president when Neil Armstrong took his one small step. Less than a year later, Nixon cut NASA's budget dramatically. "Space expenditures must take their proper place within a rigorous system of national priorities," the president said in a statement. The rocket that took humans to the moon was scrapped.

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The U.S. space program trudged forward. Construction on the ISS began in 1998. With a price tag of more than $100 billion, the station was supposed to become a cash-generating low-gravity manufacturing lab for new pharmaceuticals and materials. "It is a remarkable technical achievement to have a facility of this size and complexity operating," Prof. Logsdon said. "But it was supposed to be a research facility with all kinds of valuable payoffs. I think even its advocates would be hard-pressed to say the achievements to date justify its cost."

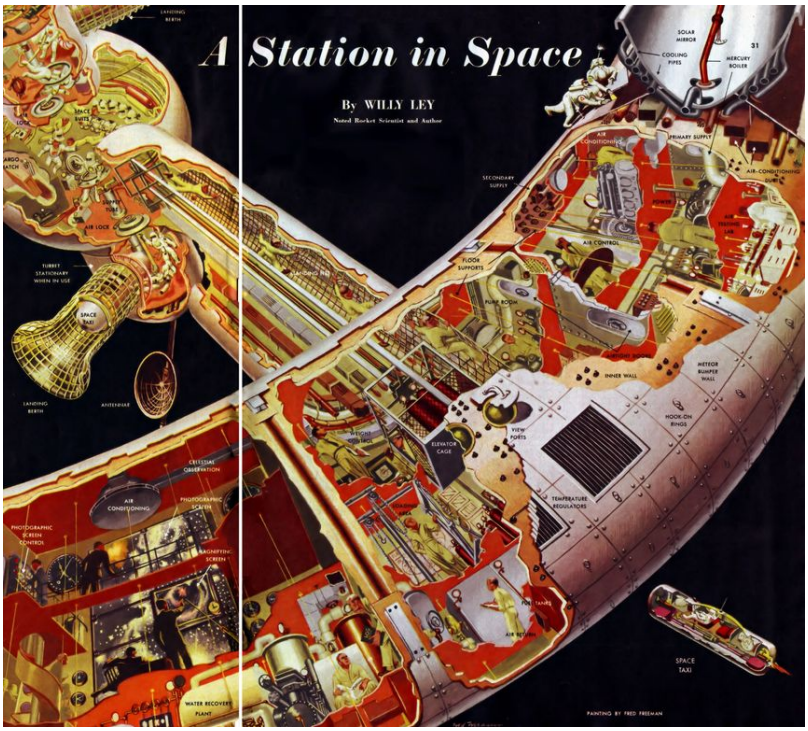
That's the tricky part: justification. We're still looking for a reason to go beyond Earth in a lasting and meaningful way.

Elon Musk's SpaceX is developing a heavy rocket and a capsule to carry humans to the ISS and—potentially—beyond. The company also provides launch services for government and commercial satellites. It's a business that could thrive, assuming new commercial endeavors increase demand. While the possibilities are broad—microgravity manufacturing? orbital data centers? SpaceX's own satellite internet service?—they're still unproven.

Some people, most notably Mr. Musk and Amazon Inc. CEO Jeff Bezos, believe we should leave Earth to hedge our bets against extinction. But couldn't a system to support life on Mars work just as well on an increasingly inhospitable Earth? Besides, says Dr. Launius, "If we foul up the planet so we can't live here through global climate change, nuclear war—you name the devastation of your choice—maybe we don't deserve to survive. Planet hopping to places where conditions are flawless might not be the best."

NASA is currently testing its new Orion capsule that, according to the agency, "will take us farther than we've gone before, including to the vicinity of the Moon and Mars." Pair that with NASA's proposed space station, called the Lunar Orbital Platform-Gateway, and you get something that resembles von Braun's 1950s vision.

The other day, I caught a video stream of SpaceX's Crew Dragon capsule docking with the international space station. Even to a sensibility dulled by a diet of sci-fi movies, it was a remarkable sight. The only passenger onboard was a mannequin, but here was an American space



'Life will be cramped and complicated for space dwellers; they will exist under conditions comparable to those in a modern submarine,' wrote science writer Willy Ley in Collier's magazine. PHOTO: COLLIER'S MAGAZINE/JTE MULTIMEDIA

ship capable of carrying people into orbit—the first since the shuttle. The frustration I had been harboring since Space Camp was replaced by relief. We're not there yet, but life in space is once again in our sights.

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