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An Astronaut With 'Bad Eyesight and a Fear of Heights'

Mike Massimino hopes that people can see themselves in his tales from orbit, including a nearly disastrous blunder fixing the Hubble telescope

Mike Massimino at the The Rose Center for Earth and Space at the American Museum of Natural History, New York City, Nov. 17. MACKENZIE CALLE FOR THE WALL STREET JOURNAL

By *Emily Bobrow* Follow

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As a NASA astronaut, Mike Massimino spacewalked four times to repair the Hubble Space Telescope. When he retired in 2014 and began giving talks about his experiences, he assumed audiences would want to hear about the thrills of those exploits. Instead, he found himself fielding questions that were broader and deeper: How did he weather disappointments? What did he do to build trust with colleagues? Why didn't he give up when NASA rejected him three times before accepting him?

"I still get asked the usual things, like did I throw up and how did I sleep, but talks about problem-solving and teamwork are what really resonate with people," Massimino, 61, says while on a recent visit to the American Museum of Natural History in Manhattan, not far from where he lives and where he now teaches engineering at Columbia University. "The space stories just help them remember the takeaways, the lessons I learned from making mistakes."

Those lessons inspired Massimino's new book, "Moonshot." His colorful yarns from his years at NASA—when he cracked his space helmet as a rookie trying to show off, or nearly crashed while co-piloting a T-38 Talon supersonic jet by not speaking up when he sensed something was wrong—make larger points about moving forward despite missteps. Massimino reckons that while few readers know what it's like to orbit the Earth, many will see themselves in his stories because he is not, in his words, a typical astronaut.

Massimino, seen in the Gilder Center for Science, Education, and Innovation at AMNH, had to apply four times to be an astronaut. 'The only way to fail completely is to stop trying,' he writes in his new book. PHOTO: MACKENZIE CALLE FOR THE WALL STREET JOURNAL

“I was a gangly, scrawny, working-class kid from Long Island with bad eyesight and a fear of heights,” he writes. He notes that people are often surprised to learn he’s been to space because, as he quipped in his bestselling 2016 memoir, “Spaceman,” he looks “like a guy who’d be working at a deli in Brooklyn, handing out cold cuts.” Although he dreamed of space travel from the moment he saw the TV broadcast of Neil Armstrong and Buzz Aldrin walking on the moon in 1969, he assumed for years that he would stumble if he tried to follow in their footsteps. In his Italian-American hometown of Franklin Square, just over the New York City border from Queens, it was rare for kids to even leave their neighborhood.

By 1985 Massimino had an engineering degree from Columbia and was languishing in an IBM cubicle, but watched a homemade VHS tape of “The Right Stuff” every night. He recalls being moved by its portrait of the original seven U.S. astronauts as swashbuckling space pilots who looked out for each other: “I didn’t just want to go to space, I wanted to be on that team.” He pursued a Ph.D. in mechanical engineering at the Massachusetts Institute of Technology, which he learned could be a route to NASA, and was undeterred by the explosion of the Challenger space shuttle in 1986. The tragic accident drove home for him “how important it is to live your life—and even risk your life—in the pursuit of something you love,” he writes.

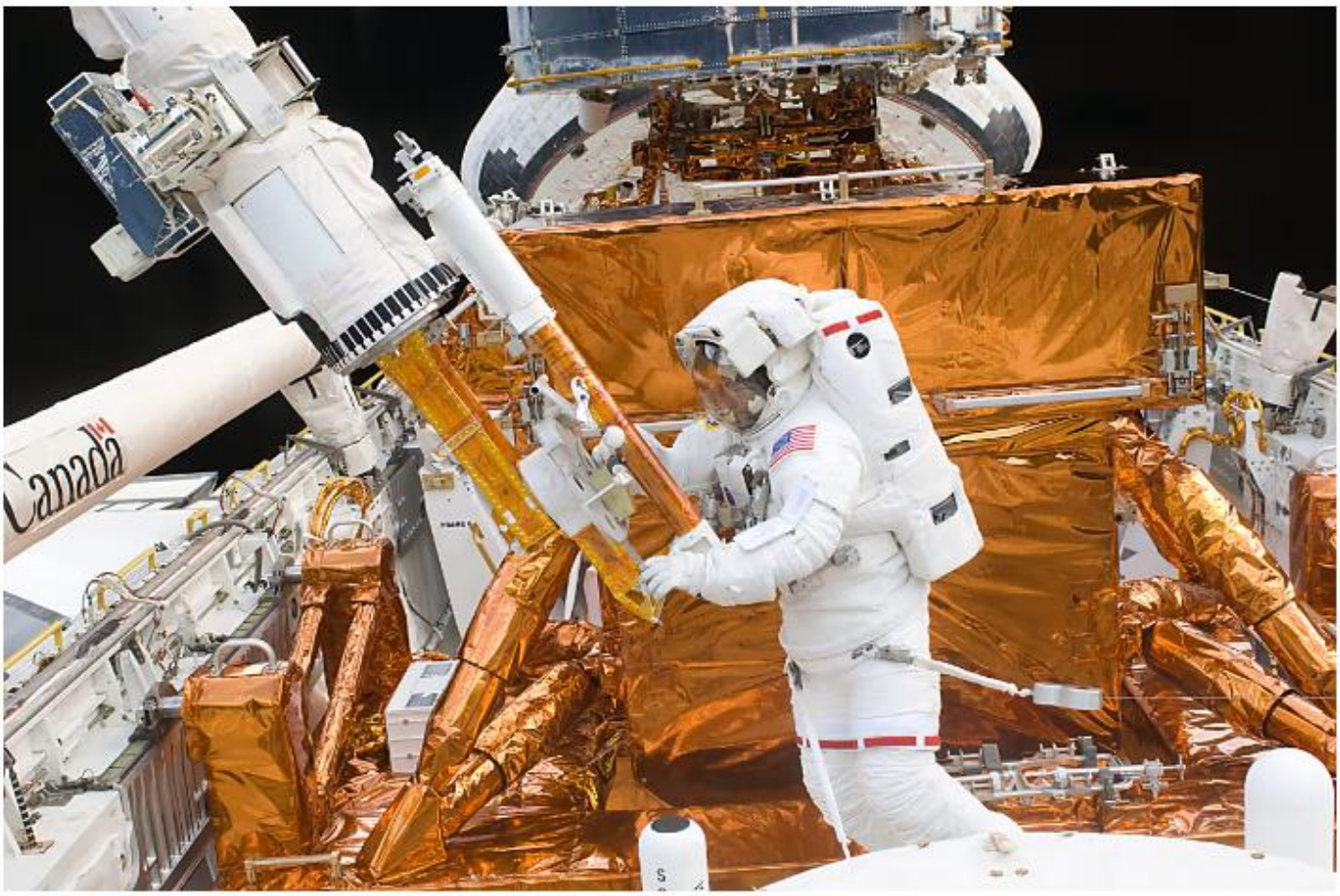
Although the odds of becoming an astronaut were against him, Massimino took heart that a one-in-a-million shot was not zero. After two rejection letters, he was then medically disqualified by a rule at the time requiring uncorrected 20/20 vision.He spent months working with an optometrist to strengthen his eye muscles and passed his next eye exam. He was 33, married to his first wife, with two young children, when he joined the astronaut class of 1996. “The only way to fail completely is to stop trying,” he writes.

Massimino was inspired by the camaraderie depicted in 'The Right Stuff' film about the first group of U.S. astronauts: 'I didn't just want to go to space, I wanted to be on that team.' PHOTO: MACKENZIE CALLE FOR THE WALL STREET JOURNAL

At NASA, Massimino says the emphasis was on teamwork: "You need people who will put the mission of the group over their personal aspirations." He notes that aspiring astronauts were often weeded out if their egos were too big or if they failed to admit their errors. Massimino met Neil Armstrong early in his training, and he is still moved by how shy and humble his hero seemed, how eager he was to give credit to the thousands of people who made his moon-landing possible. Massimino suggests this approach should translate to other industries, as "very rarely is anything great ever accomplished by one person."

Some people deny their mistakes. Massimino says he ruminates over his, such as when he blew his first Ph.D. qualifying exam so badly that his adviser told him, "Maybe you're not cut out for this." In space, where the stakes can be perilously high, there is often little time to dwell. This is true of Massimino's two missions to service the Hubble telescope, in 2002 and 2009, which involved performing highly technical tasks in a bulky spacesuit under tight time constraints.

When Massimino accidentally stripped the bolt head of a screw during what would be the last mission to fix the Hubble, he recalls being "hit by a tsunami of shame, guilt, disbelief and regret." His blunder threatened to squander years of planning and millions of taxpayer dollars to restore part of the telescope's function. Yet he practiced something he learned from a NASA colleague called the Thirty Second Rule: beating himself up for no more than 30 seconds before returning to the task at hand. His ground team in Houston helped him plot a workaround, and the Hubble is still operational today. "Regret is natural," he writes. "Then it really is time to move on."



Massimino works on the Hubble Space Telescope in the cargo bay of the space shuttle Atlantis in 2009. PHOTO: NASA

Massimino remembers feeling so moved by the beauty of our planet during his second mission that he worried he would cry and have the tears floating inside his suit. Yet in 2010 he turned down a chance to fly on the Russian Soyuz rocket to the International Space Station (ISS). He didn't like the thought of being away from his teenage kids for the better part of three years, but he also no longer burned with a desire to fly. As he plotted his next move, he sought advice from the pioneering astronaut Alan Bean, who warned him to avoid entering civilian life with a sense that he was owed anything, "because being entitled is the kiss of death for a happy and productive life."

In this new era of space travel, Massimino notes that his students at Columbia have already sent experiments on a Blue Origin rocket and to the ISS via a SpaceX Dragon mission. "This would have been unheard of even five years ago," he says. After years at a large, cautious government agency, he marvels at the speed, ingenuity and appetite for risk in the private sector. "They're willing to blow stuff up," he says. He notes that astronauts were initially skeptical of moves at SpaceX to automate the cockpit but says that many now believe a computer is better in certain emergencies than a human.

Massimino trained for six years before his first NASA flight, but he thinks space tourism is a good thing. Private shuttles will expand opportunities for scientific research, he says, and the experience of seeing Earth as a fragile, life-giving orb tends to leave people changed. "The more people that go, the better off we'll be," he says. His only pet peeve is that suddenly "everyone's an astronaut now." He recalls an Explorers Club annual dinner a few years ago when a man showed him his "astronaut wings" cuff links from a recent private jaunt and asked him, "Where are yours?"