

Space shuttle veterans were a different breed of astronaut

July 4 2011, By Ralph Vartabedian

As a teenager in Costa Rica, Franklin Chang-Diaz had an improbable goal: becoming an American astronaut. Ultimately, he would fly a record seven shuttle missions and today wants to fly to Mars.

Scott Parazynski also wanted to go to space and figured becoming a doctor at Stanford University would help him get there. He became a jack of all trades spacewalker, went on to climb Mount Everest and become chief of medicine and technology at a research hospital.

Curtis Brown Jr. dreamed of cockpits while growing up on a North Carolina tobacco farm. He became one of the shuttle's top pilots. Now, he flies airliners for a job and races jets over the Nevada desert for fun.

The blastoff of Atlantis in Florida on Friday will end not only the 30-year-old [space shuttle program](#) but also an era defined by a different, more driven breed of astronaut.

The 358 men and women who became shuttle astronauts lacked the star power of their predecessors in the Mercury, Gemini and Apollo programs, who were made of the "right stuff" and walked on the moon. The shuttle astronauts' biggest headlines came in tragedy, when seven died in the 1986 explosion of Challenger and seven more perished in the fiery reentry breakup of Columbia in 2003.

But in many ways, what they accomplished before they walked into NASA, during their flights and in their careers afterward, was a leap

forward.

They were well-educated, physically fit, intellectually curious and diverse - men, women, blacks, Latinos and Asian Americans mingled in what before was an exclusive club.

The shuttle pilots flew orbiters above Earth with their hands on the [thruster](#) controls, delicately docking with the [International Space Station](#) and making no-second-chance landings on Earth. They walked in space scores of times, repairing the [Hubble telescope](#) and methodically assembling the space station from bits and pieces flown up in the shuttle's big trunk.

And their stories became much more a part of the common American fabric, even as they achieved something rarer than winning a lottery. The shuttle astronauts came from every corner of the nation and every background, and scattered in every direction when their space days ended.

Some were former combat pilots in the Vietnam War who took command of the shuttle cockpit, becoming known as the "bus drivers." Others were elite scientists in the back seats, conducting arcane experiments in orbit, and became known as "talking ballast."

They had one thing in common: After one flight, they became addicted and waited for years to get one more flight, and then another.

"It is an awe-inspiring emotional experience," said NASA chief Charles Bolden, a former shuttle commander who, like other astronauts, struggles to describe the sensation of launching atop a 60-story column of fire.

The best of the corps were super-achievers - setting their academic and

career sights incomprehensibly high, forgoing better-paying professions to spend months rehearsing sometimes mundane tasks. Even among the best, a few stood out.

Chang-Diaz wanted to be an astronaut growing up in Costa Rica in the 1960s when he wrote to legendary rocket scientist Werner von Braun. NASA wrote back, suggesting he come to the United States to study engineering.

"I made up my mind that I would emigrate to the USA to follow my dream," he recalled.

The teenager went alone to Connecticut and by 1977 graduated from that Massachusetts Institute of Technology with a doctorate in plasma physics. He went on to have seven flights, the top of the astronaut pyramid. Today, Chang-Diaz, 61, is attempting to develop a revolutionary plasma rocket engine at his company Ad Astra Rocket Co. that could reach Mars in a fraction of the time a conventional rocket would take.

Story Musgrave, who flew six missions and was the hands-on mechanic who fixed the Hubble Space Telescope, was perhaps the most highly educated of any astronaut. A chemist, mathematician, surgeon, biophysicist, business administrator and literati by academic training, he has become a landscape contractor in Florida since leaving the National Aeronautics and Space Administration.

"I own a bulldozer, a tree spade, two military dump trucks," Musgrave said. "I do 20-acre projects. I was up in the cherry picker today trimming a tree."

Musgrave, 75, has a 5-year-old daughter, one of five children who range up to 50 years old. "Everybody's genes are different," he said.

Shuttle veterans can earn considerable speaking fees. Richard Searfoss, a retired Air Force colonel and veteran of three shuttle flights, gives 30 to 40 speeches a year and does experimental test flying in Mojave.

But for many astronauts, their aspirations to fly into space carried a heavy personal price. The probability of death after the 2003 Columbia accident was 1 in 56, a grim statistic in any profession. It was hardest on spouses and children.

"For some, their children would beg them, daddy don't go again." said Michael Cassutt, a Studio City biographer of astronauts and screenwriter.

Four astronaut couples were married, but only one of the unions has survived. Robert "Hoot" Gibson, a Top Gun Navy aviator who commanded and piloted five missions, married astronaut Rhea Seddon, a Tennessee doctor. They recently celebrated their 30th anniversary on Maui. As for the others, Gibson said, "I guess it's hard to be married to an astronaut."

In a few cases, astronauts became embroiled in controversy, such as the diaper-toting, lovelorn Lisa Nowak, who stalked her former astronaut boyfriend's new girlfriend in a parking lot. NASA mostly kept a publicity lid on the astronauts' private lives, in which they often shared the same vulnerabilities to office politics, rivalries and troubled romances as anybody else.

NASA currently has 62 astronauts. They include 33 military officers, four medical doctors, 15 who hold doctorates and five combat veterans, according to their official biographies.

The mix seemed an odd fit at first. But the scientists came to respect the structured, disciplined minds of the pilots, while the pilots marveled at

the scientists' free thinking, Chang-Diaz said. Improbably, the immigrant astronaut became close friends with Bolden, a Marine pilot with 100 combat missions in Southeast Asia and who later was a general in the 1991 Persian Gulf War.

For the pilots and commanders, the love of flying never ended. Five former shuttle pilots ended up at commercial airlines, four of them at Southwest. It's a measure of how little attention is paid to former shuttle astronauts that a company spokeswoman said she wasn't aware of it.

The high altitude view "never gets old," said Southwest Capt. Byron Lichtenberg, a former astronaut with a doctorate in biomedical engineering from MIT and a veteran of 238 combat missions in Vietnam. "It is always beautiful."

Perhaps no astronaut traveled farther to get to space than Jose Hernandez, who worked as a farm laborer as a boy, following the harvest north.

"We would start with strawberries in Southern California and work our way north, lettuce, cherries, cucumbers, peaches, apricots and then grapes in the fall," Hernandez recalled.

When Hernandez heard that Chang-Diaz was the first Latino in space, he set a goal of becoming an astronaut. Although not proficient in English until he was 11, he graduated from the University of California, Santa Barbara with a master's in aerospace engineering. He was accepted into the astronauts corps in 2004 and flew on a 14-day mission in 2009.

"My father told me do not be afraid to work hard," said Hernandez, who recently joined an aerospace engineering business in Houston. "I said, 'Well, dad, I work in the fields. How can I be afraid to work hard?'"

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