ONE FOR MARS

 The year was 2031, and Jared “Jake” Mitchell was finally chosen to be the first human to set foot on the fabled Red Planet, Mars.

 He had been born in Cottonwood Falls, Kansas in 1999, the only child of ranchers Reba and Sam Mitchell. As a boy, Jake had always dreamed of being an astronaut. His favorite childhood book was The Martian Chronicles by Ray Bradbury. He progressed over the years from building model rockets as an Eagle Scout to attending M.I.T., where he earned a dual-doctorate in astrophysics and microbiology. Jake’s resume also included test-piloting new fighter jets for the U.S. Air Force. Given the intensity of his career, Mitchell had never found the time to get married, although he had several serious girlfriends over the years. He was ruggedly handsome and six feet tall, with wavy black hair and dark brown eyes. Jake was blessed with an open and easy-going manner. He was also hard-working, honest, dependable, and steadfast.

 Mankind’s dream of exploring other planets began in earnest in the 1970’s, with two unmanned Viking Landers going to Mars. These were later followed by the Spirit and Opportunity Rovers, the Phoenix Lander, and the Curiosity Rover. By 2018, there were six orbiting spacecraft circling the Red Planet -- the most ambitious being the sophisticated Mars Reconnaissance Orbiter, a joint effort by the United States, India, Russia, and the European Space Agency to map the entire surface of the planet.

 By 2024, NASA had returned to the Moon with the new Artemis Program – the successor to the Apollo Program. A manned colony was set up near the lunar South Pole, because it was found to contain ice, which could be melted for both fresh water and for rendering water molecules into hydrogen fuel to help propel future spacecraft out into the solar system, specifically to Mars.

 One blustery early October morning in Houston, Jake Mitchell was called into the office of Dexter “Dex” Ross, head of NASA’s Planetary Exploration Division. Ross, age 58, was a former astronaut himself, so he knew both the joys and challenges of any new outer space assignments.

 After offering Jake some coffee, Dex got right down to business.

 “Jake, the good news is that we are still going to get you to Mars. But it’s not in the way we expected. As you know, the world is struggling with a deep economic recession. We are, in fact, teetering on a world-wide financial collapse such as we haven’t seen since the Great Depression of the early 1930’s. The public suspects as much, but governments around the globe are trying to downplay the inevitable to forestall panic and social unrest. Jake, people are hungry for inspiration and hope to offset their anxiety and despair. We at NASA believe that successfully landing a man on Mars could rally both our nation and the world, much as the first moon landing did back in 1969.”

 Mitchell listened with complete focus on his steel-haired, square-jawed, no-nonsense boss.

 “Originally, Jake, you were to train as part of a crew of four – two men and two women. But due to severe budget cuts that we just learned about here at NASA, the Federal government -- at this time -- can only afford to send one astronaut to Mars. Plus, that person can only be sent on a one-way trip.” Dex Ross paused here for emphasis to let these two startling facts sink in. “Now, we anticipate that three other astronauts will be able to join you on Mars in about a year after you land, and you will of course return to Earth with them after the entire mission is completed. Your launch will be from the Moon spaceport in late January. It is then about seven months to Mars, some 50 million miles through space. You will be alone on the planet’s surface for an entire year. The three other astronauts will then arrive and stay with you for six months. Finally, it will take an additional seven months for everybody to come home. So we are talking about a total of thirty-two months away from Earth – that is, four months shy of three years. So, Jake, I need to ask you straight: Are you the man who wants to go first to Mars? And are you willing to accept all the risks for this supremely historic opportunity, even with the two major changes I just outlined?”

 Mitchell was temporarily blindsided by the reality of both going alone and of going on a perilous, possibly one-way journey. “How sure are you, Dex, that NASA will get the funding to send a crew up in nineteen months and bring me back?” Jake wanted to know the truth up front.

 “Well, nothing is 100% when we consider the future of anything, Jake,” Ross admitted. “But I find it highly unlikely that the people of Earth would ever stand for abandoning the first man to walk on Mars and not bring him home safely.” Dex sipped from his favorite battered NASA coffee mug and then smiled in reassurance.

 “What about food and other supplies?” Jake then wondered. “You can’t fit enough in a standard one-man capsule to last me all of that time.”

 “We thought about that, and about a hundred other things too,” Dex replied. “If you agree to go, an unmanned two-ton supply vessel will leave the Moon next month and soft land on Mars near your touchdown coordinates near the Valles Marinaris canyon. All of your supplies for a year will be onboard that ship, easily enough to last you until the other three crew members join you. We are also adding a solar-powered rover in the package for you to drive. As to your spacecraft: although you will not be on the original large craft designed for four crewmates, there is a modified ship large enough for two already at the Moon spaceport. She’s called the NASA ‘Harmony’. You’ll have her all to yourself. It has four sections: Navigation & Communications; Sleeping Quarters & Entertainment; Kitchen Galley & Storage; Exercise Gym-Shower-Toilet. All food supplies and equipment for your seven month journey will be onboard. And you’ll be glad to know that zero gravity will be neutralized because the craft rotates as it travels through space, so your ride to Mars will be much more comfortable without you and everything else floating around.”

 Jake Mitchell thought carefully for a few silent moments, then definitively announced to his boss that he would go. “I couldn’t live with myself if I turned down a once-in-a-lifetime chance like this,” he admitted. “Plus, I would be honored to represent both my country and the human race in this project.” So the 32-year-old veteran astronaut (he had commanded five, 3-day missions to the Moon colony thus far) started simulator training with his new spacecraft in Houston the very next day. In addition to the mechanical aspects of the mission, the psychological effects of isolation in space were especially addressed, and Jake was certified as completely fit. A month later, his unmanned, 2-ton Mars supply ship was launched from the Moon’s spaceport as planned.

 During the next three months while he trained, Jake refreshed his knowledge of the Red Planet. It orbited closest to the Earth every two years, so his planned trip would take advantage of that favorable cycle. Mars was only half the diameter of earth, but had only 1% of its atmosphere. 96% of its thin air was carbon dioxide. Martian gravity was just 38% of Earth’s, so his 180-pound frame would weigh only sixty-eight pounds. The planet had no magnetic field, so unimpeded solar winds pummeled the red surface with lethal radiation. Mars had two small orbiting moons: Phobos and Deimos. Temperatures on Mars ranged from a horrendously frigid -225 degrees F. to a blazing 95 degrees, with a freezing average temperature of -82 degrees. Some water was available as ice underground and at the poles. Iron oxide in the soil gave the planet its reddish-orange-brown color. Mars was also prone to enormous and lengthy dust storms, as well as random bombardment by micro-meteorites.

 As for his specific landing area near Valles Marinaris, Mitchell knew that this gigantic canyon near the Martian equator spanned one-fifth of the entire distance around the planet. It was 2500 miles long, 120 miles wide, and 23,000 feet deep. Its eastern flanks showed impressive evidence of water erosion from long ago, so NASA was hoping that a vast frozen storehouse of subterranean water could be found and later utilized there for a future permanent Martian colony.

 The last three weeks of Jake’s training were done at the Moon spaceport. All of the 256 lunar colonists from various countries around the world were actively involved in preparing for the historic Mars launch, which was scheduled for lift-off on Sunday, January 25, 2032.

 When that special day arrived, the weary world forgot its troubles for a time and was glued to their television and computer screens. Jared “Jake” Mitchell was elevated to the status of a Columbus or a Magellan, even eclipsing famed fellow astronaut Neil Armstrong. Jake’s proud parents were likewise interviewed many times by all of the media networks. The dramatic rocket countdown occurred without a hitch, and NASA Harmony smoothly blasted off towards the legendary Red Planet at 12:38:19 Universal Lunar Time.

 Jake had formulated a daily regime that he would adhere to during the flight. In addition to his usual routine of equipment monitoring, cleaning & maintenance, meals, sleep, showering, and regular communications, he set up the following schedule: two hours of vigorous exercise to forestall muscle and bone loss (seeing as he would now be the longest-traveling man in space); another two hours of reading – technical and pleasure nonfiction and fiction; two hours of watching news or movies on the 50” flat screen monitor set up in his sleeping quarters; two hours logging his reflections in his computer journal; and another two hours doing creative activities, such as pen & ink drawing or playing chess or poker against the ship’s computer, which had also been programmed to be pleasantly conversational. Mitchell also had a vast digital library of music to listen to whenever he wanted. Once a week, he enjoyed an hour-long Earth broadcast, whereby he answered questions from the public, albeit with some satellite delay, given his always increasing distance away from home.

 But being alone means having a lot of time to think about one’s self even when a person is kept busy, and Jake was no exception. He stared out the viewing ports of his spacecraft at the cold and lonely blackness of space, which was sprinkled with sparkling, remote stars. He listened to the constant reassuring hum of the Harmony’s mechanics grid. He thought about his life, and relived all of his memories going back into childhood. He thought about God, and about the riddles of meaning, purpose, and existence. He imagined his future after he returned to earth as a hero. And he realized how badly he now craved companionship – a wife, children, neighbors, even a dog…

 After four long months in space, Jake began missing the sounds and smells of home: wind rustling through the leaves of trees, crickets on a summer night, ocean waves lapping a beach at sunset, birdsong, the whinny of horses, freshly plowed farmland, his Mother’s cooking, his Father’s briar pipe tobacco. In fact, Mitchell now dreamed about Earth practically every night. Jake especially savored the tastes of the various foods in his daily meals, eating slowly and deliberately with pleasure. Meanwhile, he had foregone shaving (mainly to conserve water) and had grown out his beard, but he kept both his black hair and beard closely trimmed and neat. His overall health was good, fortunately, although he secretly dreaded the remote possibility of getting a toothache or worse, with the nearest dentist millions of miles away! He was relieved that his appendix had already been removed when he was a teenager.

 Soon, at the five-month mark, Jake could see the Red Planet growing larger at regular intervals in the distance. His patience was holding firm, but he was understandably anxious to get his feet on Martian soil and explore.

 At last, the awesome sight of Mars up close near the end of his voyage filled Jake Mitchell with excitement and intense curiosity. Valles Marinaris looked like an immense, dramatic knife gash across the belly of the planet. Stowing all of his gear and informing NASA yet again of his status, Jake set his navigation computer on autopilot, strapped himself in, and engaged Harmony downward. Weightlessness was re-experienced now by the astronaut for about thirty minutes. The history-making date was Saturday, August 28, 2032. The world back home held its collective breath as the spacecraft fired its retrorockets and touched down on a strange, new world.

 The brave solo astronaut secured his ship, suited up in his spacesuit, and carefully decompressed the capsule, then slowly opened the hatch portal. What he saw was both stunning and overwhelming. Jake had previously examined high-resolution photos and videos of the Martian surface in minute detail as part of his exhaustive training, but seeing it in actual three-dimensionality was absolutely incredible! His craft was parked about one mile south from the vast east-west slash of Valles Marinaris, as planned. A locator beacon, meanwhile, indicated that Mitchell’s earlier crucial supply ship had landed about two miles southwest from NASA Harmony. So far, so good…

 Jake had plenty of time to consider what his first words on Mars should be. So activating his craft’s external video unit and tying in his spacesuit audio, he carefully exited his ship and climbed down the ladder, then stood on its landing pad. He gazed with humility and wonder at the strange, reddish-orange-brown land, with its beckoning mountains in the distance, and its pale rust-colored sky on the horizon. Mars was empty of everything familiar to a human being except endless vistas of craggy rocks and rubble-strewn plains in every direction. It reminded him most of Wadi Rum in Jordan, where some of his simulated training had once taken place.

 Then he placed his foot on the surface of Mars.

 “Humanity’s dream to peacefully explore another world begins now,” Jake declared in a strong, clear voice, which was echoed (after the time/distance delay) to every corner of an ecstatic and cheering Earth.

 After setting up the American flag and various sensor and energy monitors near his spaceship, Mitchell took a pre-arranged communications call from the President of the United States, who thanked him on behalf of all the world’s peoples. Then Jake walked around his landing site for about twenty-five minutes, getting accustomed to the lighter 38% gravity and gauging his breathing supply of oxygen, which was minimal due to less physical exertion. He also took panoramic photos and collected important mineral samples for about thirty more minutes.

 Jake’s next duty was to re-enter Harmony, relax, and enjoy his favorite NASA dinner of freeze-dried lasagna, garlic toast, green beans, and warm diced cinnamon apples. Afterwards, he needed to unwind from the historic excitement of the day and try to get a good night’s sleep. The following morning, he would suit up again and carefully walk the two miles to his supply ship site and unload his rover vehicle, then transport in stages his four-thousand pounds of food, water, and other equipment back to his base camp. The Martian day and night cycle was almost identical to Earth’s, so Mitchell knew he could easily adapt to the light and dark hours of his new home, the Red Planet.

 It took Mitchell twelve careful hours -- spread over two days -- to haul his resupply load. His rover vehicle was up to the task, and reminded Jake of the four-wheeled ATV with trailer that he used back on his parent’s Kansas ranch. In between shifts at his base camp, Jake monitored weather sensor data and crucial communications from Earth -- the latter consisting mostly of checklist directives that needed to be completed.

 Finally, on his third day on Mars, he was awarded a special, six-hour period by NASA to freely explore his environment. By now, the lone astronaut was becoming accustomed to not seeing any greenery – no trees, flowers, grasses, or weeds – although he kept expecting to see a random cactus growing somewhere. Of course, that was just a forlorn hope, a fantasy, a mirage in his mind.

 Mitchell decided for starters to head in his rover to the Valles Marinaris rim about a mile away. He thought the experience of gazing down into the grandest canyon yet discovered in our solar system would make for some spectacular photography for all the people back home. He eagerly suited up and off he went.

 But half-way to his destination, two things happened. First, his rover didn’t have enough energy to continue the trip because – being solar powered and exhausted from the previous two days of constant use, and coupled with the weak rays from the more distant sun on Mars – it automatically shut down. Hence, Jake needed to leave his ride there and continue on foot, hopeful that by the time he returned, the rover battery would be recharged enough to get him back to base camp. But by the time he walked to the canyon rim, the second unexpected event occurred. In the distance, a vicious sandstorm with brutal, whipping winds, seemed to come out of nowhere and put him in serious danger. If his spacesuit was punctured by the small, bullet-force stones now blowing towards him, he could depressurize and suffocate, then freeze to death. The horizon was turning an ominous dark reddish-brown, and the pale sun was now obscured. Mitchell needed to take shelter, and fast!

 Because he was close to the lip of the Valles Marinaris rim, Mitchell figured that if he could find a ledge just below the surface there, he could take refuge and wait out the sandstorm in relative safety. He had experienced blinding snow blizzards as a youth back home, and figured the emergency procedures were similar. But surprisingly, this fierce storm was also somewhat electromagnetic, so his communication link back to NASA was simultaneously disrupted – for how long, he was unsure.

 Some luck was with the astronaut, however, for he spotted the ledge he needed. The canyon was indeed awe-inspiring: breathtakingly vast both length- and width-wise, and it appeared virtually bottomless. Jake slowly lowered himself over the edge and crouched down, just as the reddish-brown hurricane winds hit the area with lethal force.

 It was then that he noticed a kind of natural trail further down from his perch. If he carefully maneuvered there, he could at least stand erect for the minutes or hours he needed to wait until the winds and sands subsided. So Jake made his move further downward.

 He walked slowly and carefully down on the path for about a dozen minutes.

 Incredibly, what he saw next made him stop in his tracks. Its unexpectedness was baffling, and made him wary yet curious at the same time.

 Jake Mitchell was now staring at an enormous city of some sort, built on a wide rocky ledge which seemed to stretch into infinity. It reminded him somewhat of the impressive Anasazi pueblo brick ruins of Mesa Verde National Park, back in Colorado, except that these dwellings were thousands of times more elaborate and extensive, and they appeared to be made of some kind of shimmering glass or perhaps crystal. Furthermore, the geometric shapes used in its architecture were not based on the familiar squares, circles, triangles, or rectangles as found on Earth. Instead, this city was constructed of interconnected hexagonal prisms, octahedrons, cones, dodecahedrons, and icosahedrons. The astronaut then realized that such amazing structures had never been detected by any of our earlier Mars imaging satellites because this city was hidden -- by its vast rocky overhang -- from any orbiting craft looking directly down upon the planet from above.

 Jake had to get closer. This discovery was all truly astounding! NASA must be informed as soon as he could return to base.

 But suddenly, Mitchell was shocked to feel something touch his shoulder from behind…

 THE END

 by Jack Karolewski

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