FAR SIDE OF THE MOON

[Although our moon spins on its own axis, we on Earth only see its front side. This is because its rotation is synchronized with its simultaneous orbiting around our planet. As a result, we never get to see the moon's dark side from our home. For centuries, humans have wondered about what mysteries could exist on its far side.]

The United States had last visited the moon in December, 1972 during the Apollo 17 mission. Now, forty-nine years later, America was once again drawn by necessity to our nearest neighbor in space. Because the year was 2021, the mission was named Apollo 21. Sensors on earlier unmanned probes had detected frozen water just under the surface of a lunar area named Mare Undarum, "The Sea of Waves." This mare was located in a central, far eastern area near the zone where the brightness of the moon's face met the darkness of the moon's back. Astronauts were needed to ascertain how much water lay hidden underground, for a colony could then be established there to be used as a launching post for a manned Mars mission, tentatively planned for 2030.

The trusty NASA Saturn 5 rocket had long since been retired, so Apollo 21 used the new, powerful Saturn 500. It incorporated a special chemical fuel additive which caused its five massive engines to burn hotter and faster with less fuel. This provided more thrust and yet permitted more payload because the rocket itself was lighter in weight. Also, the new, larger Lunar Module -- nicknamed "The Bus," because it was about the length of a typical school bus, although twice as wide -- would directly jettison from the Saturn 500 booster once in space and be able to land itself on the moon, as well as blast-off from the lunar surface when it was ready to return home. Instead of taking three days to make the 240,000 mile journey to the moon, now it would take only two.

The seasoned NASA crew of four for this important mission were all Ph.Ds in their early thirties: Commander -- John Riley; Pilot/Navigator -- Derek 'Deke' Conners; Communications/Medical Officer -- Kenji 'Ken' Sakura; and Science Officer/Geologist -- Valerie "Val' Gibbs.

As Apollo 21 approached the moon, all was well and running smoothly. Soon, the 150 mile-wide Mare Undarum area came into view. Various shades of grey -- rocks and boulders and mountains and craters, and their dark shadows -- were crisply visible through the ship's observation ports. The moon looked utterly desolate, lifeless, and forbidding. Awe and exhilaration in the crew's minds mingled with the reality of the challenges which lay ahead.

"Houston, this is 21...all systems look good and we are preparing to land." Sakura reported.

"Roger, 21...your signal is strong and clear...you have permission to land. Now go find us a lot of ice. Good Luck," Mission Control replied.

"O.K., Deke, let's park this bus," ordered Commander Riley. "Everybody buckle in. Here we go..."

Conners fired the craft's retro-rockets to center and slow their descent. "Steady, steady...easy does it," he said aloud. "Ah... we are getting too much drift, Commander...I need to fire the main port lateral thruster to move us more to the right."

"Go for it then, Deke, she's all yours," Riley replied.

The pilot pushed the required button sequence on his control console. A correction that should of taken just a few seconds incorrectly continued without stopping. That was when malfunction alarms flashed, then echoed throughout the cabin.

"The thruster appears to be jammed in an 'on' position, Commander," exclaimed Gibbs. "Deke, I'll try to override it for shutoff." Each crew member had been cross-trained for just such an emergency. She flipped a nearby emergency toggle switch. "Anything, Deke?"

"That's a negative on the shutoff. Our descent is skewed, and we are continually drifting miles away to the right of our landing zone every second," Deke said in frustration. "Dammit!"

Riley quickly ordered Sakura to inform Houston of the problem. "Tell them we are coming in hot and heavy and going off course. If we drift into the dark zone, we will lose all communications with Earth. Keep relaying our position coordinates as they change. Deke, fire your starboard lateral thruster. Maybe that will neutralize and compensate for the drift. Then land us anywhere safe and flat as quickly as you can. And try and keep us in the sunlight."

"Copy that, Commander...here goes..." the Pilot replied, pushing another pair of square buttons. The module lurched and tilted, then seemed to stabilize somewhat. "That did some good, but we have to watch our fuel consumption during those extra maneuvers. Remember, we need enough gas to get home," Conners added.

Meanwhile, The Bus had drifted into the dimming twilight zone between the lighted front and the dark backside of the moon. The craft was coming down too fast, now at 15,000' and 178 mph.

The radio crackled. "21, this is Houston...we copy your problem and have your last reported position...request you emergency jettison your port fuel tank. This will stop the port lateral thruster from firing. You will still have enough fuel for return home. Acknowledge."

"Roger that, Houston. Engaging emergency jettison...mark!" Deke replied, throwing a switch. The procedure worked as the faulty thruster quit, but the momentum inherent in Newton's Law continued to push the craft sideways into utter blackness. They had crossed the barrier and had now entered the unknown and mysterious far side of the moon. All contact with the earth ceased. The Bus was coming down hard, now at 250' and 48mph.

"Activate landing legs. Turn on all external flood lights. Rig for collision!" the Commander ordered. Gibbs flipped her nearby switches. The retro-rockets kicked up plumes of thick grey dust, caught in the glare of the landing lights.

BOOM! The Bus was down, and appeared intact. But it was resting somewhat at an odd angle.

"Is everyone O.K?" asked Riley. All four astronauts looked around and nodded affirmatively to each other. "I need a quick damage report, and I need to know our fuel status."

"Commander, we are obviously not resting level. Did we land in a crater, or strike a boulder?" Sakura asked.

Valerie unbuckled her safely harness, got up, and looked out a viewing port. "No, Ken, but it looks like one of our landing struts has collapsed on impact." Everyone else also unbuckled and got up to look at the external damage. Internally, upon examination, the craft was secure and undamaged, but the fuel supply stood at only 57%. They needed a minimum of 52% to get back home.

"Alright then," Riley spoke. "Here's where we stand. We have enough food and water and oxygen for eight days, plus an additional six hours of air each in our EVA suits. If we can fix the external landing leg damage, we can launch level and go right back to earth. If the leg is irreparable, we can try at least to launch the Bus up low and laterally back to the sunlight side again so that we can reconnect with NASA and wait for rescue in about two or three days. You are all probably now like me -- too tense to sleep yet. So I suggest we eat a meal, then I'll suit up and go outside and check the damage up close and report. We have experienced the unexpected, but we are all well-trained and I am confident we can work out this dilemma and get home safely to our families. And Deke, don't blame yourself. It was not your fault, and you did everything possible, right down the line. I am very proud of each of you."

Deke spoke up next. "Thank you, Commander. I'm sure that we can get out of this mess. I estimate we are only about 20 miles from the sunlight side. Now, let's keep calm and clear-headed and grab some hot food."

After they ate some reconstituted NASA chicken and rice, peas, peaches, and a piece of carrot cake with coffee, Gibbs reported that the outside temperature was a deadly minus 280 degrees F., whereas on the sunlight side it had been a blazing 260 degrees F. Gravity now registered at 17% that of Earth. "Obviously, Commander, we cannot use our solar panels for recharging our electrical systems, but our batteries are fully charged at the moment, so we can maintain our internal and external lights. Our environmental life support and other systems will likewise last us about eight days," she announced. The module's batteries were inside the 60' x 15' x 10' Bus, and were thus protected from damage from the extreme cold of space.

Commander Riley donned his white EVA suit and exited the module's double airlocks. The remaining crew members listened to him on the com, and watched his helmet cam video on their monitor screens.

"Dust is about an inch deep here. I can see the damage to the right rear landing leg. It appears that the 4' titanium stabilizing bar was thrown off when we hit. I can't see it anywhere nearby, but in the one-sixth gravity, it could have flown or bounced more than a half-mile away in any direction. If we could find it, I think we can fix the leg and get out of here. In this lower gravity, we can slowly lift the corner of the Bus together and brace it with rocks, then re-drill and reattach the strut. So I need all of you to suit up and meet me outside with your flashlights. We can spread out and look for the missing strut." Riley gave a 'thumbs up' signal.

The crew quickly obeyed the order. Once outside, they peered into the vast, unknown darkness past the craft's floodlights. Each astronaut was briefly lost in their own thoughts (I'm actually walking on the moon!), but then it was back to work. They shuffled and bounced a bit in the low gravity as they moved, just as they had been trained on earth.

"O.K., now each of us will be responsible for a 90 degree arc of search area," Riley ordered. "That will give us a complete 360 degree search zone. Remember to stay in constant communication. I'll take the northern quadrant. Go no further than a half-mile from the Bus. Valerie, you take the western section. Deke, you take the southern. Ken, you take the eastern. Let's find that strut."

The flashlights of the crew swept left and right as they slowly combed their assigned quadrant. Because the moon has no atmosphere, there is no sound, so all the astronauts could hear was their own breathing inside their helmets.

After about twenty minutes, Kenji called out, "Hey everyone, I think I see the strut...it glinted when my flashlight hit it...it's appears undamaged, but it's at the bottom of a small crater, down about 50'. The angle down to retrieve it looks to be about 30 degrees. Not too difficult to get."

"Nice work, Ken! Set your suit's locator beacon so we can find you. Everyone, head for Ken's crater," Riley directed.

The crew soon met up with Kenji. The crater appeared to be about 250' wide. Such enough, the strut was at the bottom, the track of its skidded entry path clearly visible and fresh in the dust.

"Commander, with your permission, I'd like to retrieve it, alright?" Kenji asked. Riley agreed. "Just be careful," he added. Sakura slowly descended down the crumbly crater's slope with his flashlight.

When he got to the bottom, he picked up the titanium piece and waved it back and forth in triumph. It was then that his foot struck something unusual. He stopped and bent down, and used his fingers to push aside some of the accumulated moon crater pebbles and dust. He was shocked to find what appeared to be the corner of a huge metal door or some kind of hatch. "Commander... everybody...you all better come down here right away and see this!" Kenji exclaimed.

The crew carefully made its way down to Astronaut Sakura. Once there together, they were equally amazed.

"I assumed that we were the first beings to explore the far side of the moon. I guess I was mistaken," Commander Riley admitted. "Turn on your helmet cams and leave them on. I want to record everything from here on out. Let's clear off the rock debris from the edges of this thing and see what we're dealing with."

When this was quickly done, the four saw the revealed outline of an approximately 50' x 50' metal square.

"What the hell...?" Deke Conners muttered. “Is this from earth, or is it extraterrestrial?”

“Commander,” Gibbs interrupted. “I think I found a small entranceway over here.” The group assembled by Valerie. Such enough, a tunnel was noticed. It appeared to be carved directly into the grey lunar rock, on the side lip of the crater, near the large metal square.

“I doubt there is any way we could budge that big hatch open, so I think we should investigate this tunnel. Everybody, stay together and communicate anything unusual or dangerous,” Riley commanded. “Our helmet cams will record and relay everything we see and say back to our ship’s computers. Ken, bring the strut.”

The four astronauts followed their flashlight beams into the mysterious tunnel. It was luckily just tall and wide enough for them to fit, walking single file. The passageway led downward on an easy angle. After several minutes, the tunnel opened up into a large, cavern-like chamber. Strangely, the team felt a regular ‘thump, thump, thump’ pulsing coming from somewhere, which they felt bounce off their spacesuits.

“Look!” cried Conners. “I see some kind of mist coming out from the far perimeters of this chamber. I know that seems impossible at these temperatures, but there it is.” The others quickly noticed the same. “Commander, we have four hours and forty-three minutes of oxygen left in our suits. And you have about fifteen minutes less,” Gibbs then reported. “Temperature is now at minus 131 degrees Fahrenheit." Somewhat less extreme but still lethal, everyone realized.

Riley verbalized what they all had concluded: “This definitely indicates intelligent design, but not of our planet. Has to be alien."

Sakura’s flashlight beam next discovered a long neat row of clear, coffin-like pods. “Oh my God…”he exclaimed. The crew cautiously stepped forward.

Incredibly, the astronauts beheld naked young male and female human beings, in pairs from each racial group – European, African, and Asian. The bodies were perfectly preserved, and looked to be simply asleep. Next to them were specially-sized clear pods containing a horse, a cow, a dog, and a cat. But this domesticated animal display was different, in that their internal organs had been removed and placed along side their bodies.

“Over here!” Deke shouted. He had spied another row of four pods. What the crew saw inside the containers left them speechless. A perfectly preserved young white unicorn, complete with a spiraled silver horn protruding from its forehead. A minotaur, with the head of a bull on the body of a very tall, muscular man. A perfectly preserved young milk-white winged horse, a Pegasus. And finally, what appeared to be an infant dragon, reptilian with teeth and claws and brownish-green scales, yet also winged.

“So, these were not just the fanciful imaginings of Earth’s mythology,” Gibbs said breathlessly. “Wait until NASA reveals this to the world!”

Commander Riley was next. He said just two words: “Flying saucers…”

The astronauts immediately focused all of their flashlights on the far wall of the pitch black chamber. Lined up were several models of used spacecraft – rectangular, triangular, cigar-shaped, and saucer-shaped. Riley counted six in all. “Looks like U.F.O.s were real too, after all,” he declared, clearly puzzled and more than a little unsettled. “That big metal hatch above us must be somehow moveable so as to allow these in -- and out.”

The crew spread out a little and continued to explore the chamber, their helmet cams recording all that they said and saw.

Kenji then discovered a clear, flat type of large display case on a kind of metal stand in a corner. “Is this what I think it is?” he wondered aloud. The others quickly joined him.

Deke spoke first. “I know this sounds crazy, but I think we are looking at some kind of blueprints for building the Great Pyramids of Egypt. And the other seems to be a detailed map of a continent in the middle of our Atlantic Ocean back home…could it possibly be Atlantis?” He was completely bewildered and amazed, as were the others, with the ramifications for Earth’s history of this latest discovery.

But it was Commander Riley who had the final announcement regarding their exploration, after the group continued to wander and observe in the strange underground chamber. “I can’t believe my own eyes, yet here sits the Soviet space capsule, Luna 15. It was said to have crashed, unmanned, just a few hours before our Apollo 11 lifted off from the moon back in July, 1969. Just look at the markings…C.C.C.P., hammer & sickle, everything…and...” He peered inside the viewing ports with his flashlight. Two dead cosmonauts were eternally resting there, buckled in their seats, perfectly preserved in their now antiquated spacesuits.

“That’s it…we've seen enough here…maybe even too much to absorb objectively," Riley decided. "Let’s head back to the Bus, repair the landing leg, and get out of here. NASA is going to go crazy when we download our recordings once we get back in the sunlight…Val, how’s our oxygen?”

“Good, Commander…we have been here a little over an hour, so we still have a more than three hour supply. That's more than enough to walk the half-mile back to our ship and initiate repairs.”

“Alright, it’s back up top side through the tunnel,” Riley ordered. “Keep in single file: Val leads, then me, Deke, and Ken brings up the rear. Don't forget the strut, Ken. Let’s go.”

When the team exited the tunnel and climbed out of the crater, they saw their distant Bus module to the west, its floodlights welcomingly visible a half-mile away. The astronauts were tired and somewhat overwhelmed, but sleep would have to wait until they were aloft and out of danger. They were moving on pure adrenaline reserves now. They were, however, able to drink some needed water from a water bladder tube inside their EVA suits, which helped them stave off dehydration.

It was as dark as being in the belly of a black cat at the bottom of a coal mine at midnight. Only the astronaut's flashlights, and the floodlights of the Bus, gave any semblance of familiar reality.

The group was about half-way back to their base when Kenji Sakura was killed. Neither he -- being the last in line -- nor his comrades saw the ominous dark shape that grabbed him from behind before he could cry out, as his helmet was brutally ripped off his spacesuit and his head immediately vaporized in the moon's vacuum of space.

A few moments later, Deke Conners dropped his flashlight and screamed, "OH NO!" just once, before dying.

Riley and Gibbs both turned around, and were shocked to see that both Deke and Ken had simply vanished. Only their flashlights remained, abandoned, in the grey lunar soil. Riley yelled, "Get back to the ship, Val! NOW!"

Gibbs moved as fast as she could in the moon's one-sixth gravity, trying not to stumble, which would cause even more difficulties. She made it to their floodlit Bus module and its first airlock and opened it. But when she looked back, her flashlight beam showed nothing but inky blackness past the nearby grey rocks and dust beyond the floodlights.

"Commander...come in! Commander...where are you? I'm at the Bus, ready to go in. Acknowledge! Commander, please respond!" Valerie pleaded. But there was no response.

Gibbs had no other choice but to seal the first airlock shut behind her. After re-pressurization, she opened the second airlock and entered the ship's main cabin. After removing her EVA suit, she rushed and grabbed a com console microphone which was also linked with Riley's helmet. She loudly called again and again for him to respond. "If you are hurt and can't move, just wave your flashlight back and forth. I'll come get you, John," she urged.

Silence. No light beam wobbles. Nothing.

Astronaut Valerie Gibbs was alone on the far side of the moon, in a crippled spaceship, possibly stranded, without being able to communicate with Earth. Plus, someone or something unknown had killed her three companions.

Val buried her face in her hands, rubbing her facial skin and her eyes over and over again in exhaustion, and then scratching her short blond hair with her fingers. She knew that with Kenji gone, so was the titanium stabilizer strut. Even if she had it, Valerie realized that it was unsafe to go out and attempt any repairs until she knew exactly what killed her friends. She went over and checked the electrical systems and the fuel gauges. Battery power was good, but what was this...? The fuel level was at 57% when they landed, but now it was only at 22% and slowly falling! Christ! Probably a tank puncture due to a micro-meteor strike when we were gone. Still leaking too. Shit! Gibbs knew she needed 52% fuel to get home. She was doomed...

Overwhelmed and in a daze, Valerie wandered over to her private bunk area where each astronaut was allowed to display a few personal effects and photographs. She picked up a picture of her and her family vacationing at Glacier National Park in Montana last summer. Blue sky, sunshine, mountains, fluffy white clouds. Everyone so relaxed and happy! Her smiling husband, their son, and their daughter...even their golden lab, Boomer. My hair was longer then, she briefly mused. Funny, but she could still smell the exhilarating, fresh cedar and pine air in her mind...if only I was there now...

That was when Gibbs realized that she could either give up and pathetically die there on the moon when her oxygen and food and water ran out, or instead, figure out a way to survive and be rescued on the sunlight side. It was only about 20 miles away, she remembered.

Valerie's body absolutely craved sleep, but she couldn't allow it in her current emergency situation. Her energy was also lagging, which made her thinking sluggish and potentially mistake-prone. So she decided to eat a high-carb NASA meal of spaghetti with marinara sauce and crackers to help pump up her blood sugar. She also made and drank two large cups of strong black coffee, and used the toilet. Val soon felt more alive. Plus, she had decided what needed to be done. She had a plan that might possibly work. And she was now 100% determined to get home to see her loving family again.

Gibbs decided to use all of her remaining fuel to get back to the sunlight side of the moon. She had one shot, but it was a logical gamble. If she succeeded, she would be back in contact with the earth, which would send a rescue craft, arriving in two or three days. She had enough food, water, electricity, and all-important oxygen to last until then. She could deploy the solar panels on the Bus again. She could download to NASA all the footage of their startling underground discoveries. The deaths of her three comrades would not be in vain or ever be forgotten.

It was now or never. Fuel registered at 19% but was still gradually dropping. Gibbs buckled herself into Deke's pilot chair and powered up the instrument panels. She would fire the ascent thrusters, instructing the engine computers to level off at just 2000'. Then she would fire the starboard lateral thruster manually, to push the ship to the left, west into the sunlight zone. With luck, Valerie would just make it before all remaining fuel was depleted. If she was unlucky, and the craft fell short, she knew she was finished. No possibility of walking any distance outside to safety or rescue.

Suddenly, Val was startled to hear an odd scraping noise from somewhere outside the Bus. Her first thought was that it was Riley...John was still alive! He was trying to come back inside! But cold logic quickly convinced her that Riley was dead. Then she heard a pounding of metal on the metal hull of the Bus. Something wanted to get inside and get her, she realized with horror...

Without hesitating, Valerie Gibbs flipped off the craft's outside floodlights, engaged the navigation computers and fired her ascent thrusters. The engine roared to life. The craft shook roughly as it tried to right itself on its three good landing legs, but slowly it ascended. Valerie kept a cautious eye on her fuel gauges. The percentages kept falling, alarmingly.

At 2000', the Bus leveled off as programmed, and Val manually fired the starboard lateral thruster. The craft responded and began to veer to the left, as expected. Now if only the fuel will hold out for the twenty miles, she prayed. Meanwhile, the gauge showed just 9% of fuel remaining. The leak must be enlarging due to the ship's acceleration and vibrations, Valerie realized. "Hang in there, Bus!" she said aloud..."you can do it...just a little farther...come on..."

The seconds went by excruciatingly slowly. The fuel dropped to 6%. But soon, Valerie could see the sunlight zone -- there, on the horizon! She was now in the dim twilight zone between the light and dark sides of the moon.

At 3%, low fuel warning lights and alarms went off. Valerie's fingers were white because she was gripping her control stick so hard. "Come on...come on, baby...she urged the craft onward to the west.

The full glare of the sunlight side temporarily blinded Gibbs as she realized she had arrived at a possible flat landing spot. She immediately shut off the starboard lateral thruster. She had a dangerously minimal fuel level to fire the retro-thruster to land, but had no other choice. It was all or nothing. Valerie hit the necessary buttons, and the craft began its descent. Now I just need about 60 seconds more of fuel to slow and land without crashing, she grimly realized...

Apollo 21 ran out of fuel at 33' above the moon's sunlit surface, but it had slowed sufficiently to crash land very hard yet safely and intact.

Val unbuckled her pilot's harness and got up and quickly checked every system on the Bus. She was relieved to find that all was well. She then went to the main NASA communications console and switched it on.

"Houston...Houston...this is Apollo 21...Houston, do you read me?" After only a few seconds, NASA responded.

The emotional strain she was under all this time finally burst through her professional self-control. "Houston, this is Astronaut Valerie Gibbs of Apollo 21...request emergency rescue at these coordinates...other crew members lost..I'm all alone...please help me...tell my family I'm alive," she repeated the last words again and again, tears streaming down her face...

THE END

by Jack Karolewski

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