

# Nowhere to go

Lee Russell

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## One - Snap decisions

Liam Rogers was working fast, projecting their new course and searching for the nearest system that might contain a habitable planet. The *Leo* was drifting at a quarter of light speed. A lot of the cameras and other sensors were down and locating their current position had been tough. He still wasn't exactly sure what had happened. The side of the hull facing star GSC3145:1950 was punctured along its entire length and a lot of the ship's electronics had been fried by a wave of ionising radiation. One of their main fusion engines was completely destroyed and a lot of the remaining chemical propellant had been vented to space.

It was very likely that the star had gone supernova, but he didn't have time to find out. The AI was damaged and there was only enough processing power left to maintain basic ship functions while keeping the reactor stable. Liam was running a lot of the calculations needed to plot a course on his own portable computers; this was all taking time, time they might not have. He was a thirty five year old expert in cosmology and author of numerous papers attempting to unite string theory with events in the first microsecond after the Big Bang. He hadn't needed to think about the physics of inter-stellar navigation since graduate school. But Paula Beade, their navigator, was dead. Most of the crew were still asleep in their flight tubes, so it was up to him. He turned slightly as Peter Mitchon entered the bridge, "How bad is it?"

Mitchon was in his early fifties, a bit overweight but fit enough for the mission, even though he had to work hard to maintain it. He had crew-cut whitening hair and deep brown eyes which seemed black and uncaring, like a shark's. Right now those eyes looked slightly wild and there was an aggressive set to his shoulders, "Bad. At least half the crew were killed when the star-side hull was breached. Looks like their tubes were split open with fast moving dust particles. The other side looks better but we lost some people when their tube electronics were fried. All told I think we've maybe thirty left."

Liam recoiled in disbelief. "My God. Over a hundred dead." He stopped working for a moment. Mitchon roughly shook his shoulder, "Come on. We need a course. Failure is not an option, Rogers."

"Get stuffed, I'm not a marine."

“How much longer? We may need to power down the reactor. I need to know if we have to change course before I do that.”

Liam swallowed, the bad feeling between the two men hung between them like a sour fog. “Two minutes. Best choice looks like HD188753. It’s a K0 star about 5 light years away. It’s a bad system, a triple, primary just over one solar mass. The secondary is a close double with about 1.6 solar masses. Still, astronomers have previously detected a Jupiter-mass planet orbiting the primary, so there might be another planet we can set down on.”

“Might be, come on Rogers.” Mitchon’s voice was rising, close to a shout. “We need to know now.”

“That’s the best I can do. I’ve plotted the course. We’ll need a forty-seven minute burn from the main engine, then a mid-course correction from the AI in about eight years time. Are we going for it?”

Mitchon hesitated, “Can we cross check this?”

Now it was Liam’s turn to bite, “This is your call Mitchon. You’re in command now, not just counting supplies.”

Mitchon flustered and clenched his fists. Liam could almost see his face reddening behind his helmet’s visor. Mitchon paused, seeming unable to speak, then grunted “Do it.”

“Right.” Liam started keying the instructions into the navigation console, “I’ll have to leave my portable connected through this fastlan port, the AI is too damaged to run the program right now.”

“Ok.”

“Here goes ...,” Liam pushed the ‘send’ button and committed them to the new course.

A countdown started, "Five minutes twenty seconds to main engine burn ... all crew return to secure flight positions ... Five minutes ten seconds to burn ..."

Mitchon grabbed him by the shoulder, "Ok, let's get iced."

Liam nodded and they both pulled away from the bridge, floating down the main umbilical towards the crew compartment. They were hampered by the emergency spacesuits but still had to move quickly, securing each hatchway they passed. With thirty seconds to spare each man was in his tube. Their sleep times had been re-programmed by Liam's portable.

Liam caught Mitchon's eye, "See you on the other side."

"I hope you programmed this right," Mitchon replied. Liam just smiled and closed his tube. He was still smiling towards Mitchon when the tube took control of his body and he fell into the deep sleep.

The only observer to their final conversation was the AI. Its cool mechanical eye ignored the frightened look on Mitchon's face. It was not programmed to worry about human emotions and powered down, uncaring, once the burn was complete.

## **Two - Welcome back, 15 years later**

The bridge was cramped. It normally took a team of three people to bring an orbital transfer vehicle, or OTV, online and ready for descent. But the carnage caused by the explosion of GSC3145:1950 had killed the OTV crew; so five of the survivors were having to work the process out from flight manuals.

Liam sat on a box at the rear of the bridge, near the main bulkhead. He had a portable computer balanced on his lap and a tangle of wires fed into some of the AI's fastlan ports. He was running a real-time model of their progress through the HD188753 system; trying to project their path within the complex gravity field of the three stars and find a route towards the primary that kept their best options open. "Roll three degrees starboard yaw, 8 second burn on my mark; six, five, four, three, two, one, mark!"

The main engines activated and they were thrust back on their seats with the acceleration.

Dean Havers spoke out from the pilot's chair, "Three, two, one, cut off!" He toggled off the main engines and they relaxed back in their chairs. Havers was a thirty-seven year old chemist. He also flew gliders and was the closest thing to an OTV pilot they had. "How're we doing?"

"We're on a good line towards the primary now. Slowing to enter the system used most of the remaining reactor power, there's just enough fuel left to maintain life support for a few more hours. We've 60 seconds of chemical propellant left, so any remaining course changes need to be very precise." Liam passed his computer to Melinda Kerry, mission exo-biologist, "Please pass this up to Dean"

Havers examined the route, "Ok, we get one chance at this. We're on a hyperbolic orbit which will thread us between the primary and secondaries ... well done Liam."

Liam smiled and relaxed back against the bulkhead, "You're welcome, piece of cake."

Havers turned to Kevin Drayman who was sat in the co-pilot's chair. "When we spot a good planet we'll have to disengage quickly from the *Leo*. Be ready, and keep your eyes open on those monitors, in case the main scanners miss anything."

Drayman was a large man, with piercing blue eyes and a booming voice. He had no space-flight experience but was used to operating complex remote-sensing geology instruments. His sound technical skills and a good dose of fear had enabled him to digest the co-pilot's flight manual in record time. His console was covered in sticky notes, which he had attached to critical controls, and he had two checklists taped to each thigh. "I'm on it. Just say the word and we're disengaged."

"Excellent." Havers looked over his shoulder at Melinda, "Status update Lin?"

“Reactor looks good, some fluctuation on the magnetic seals but she’s only got to hold it together for another three hours.” The room fell quiet for a moment. She didn’t need to add that if they were still attached to the *Leo* at the end of that time they would be on a one-way ticket out of the system. With the ship’s systems failing rapidly that was a death sentence. She gave a nervous cough and continued, “Shipwide power grid is nominal, main bus is good, OTV locks are primed and armed on Kevin’s panel. O2 is good, radar is good.”

“Thanks.” Havers injected some lightness into his voice, “Peter, you got anything?”

Mitchon had just one task; to monitor the stream of remote-sensing data and try to locate a habitable planet for them to set down on. He grunted, “Not yet”.

“Ok,” said Havers, “... keep ‘em peeled. I think the travel guide said there’s a tropical island around here somewhere.”

There was some nervous laughter and then they settled back to work.

### **Three - Paradise found**

“I’ve got something ...,” Mitchon sounded excited. “Class 2 exoplanet. Evidence of a thin atmosphere, spectral analysis shows mostly hydrogen and nitrogen, its almost primordial. Some hydrocarbons ... methane, very low concentrations of O2, some water condensing in the cloud decks.”

Havers turned in his seat and gave him the ‘thumbs up’, “Good job Peter.” He looked across to Liam, “Anything else?”

Liam was already integrating the latest stream of data into his flight model, “Looks like about 4 Earth masses, roughly 2 by 10 to the 25 kilos, radius about twelve thousand kilometres, overall density slightly less than Earth, surface gravity clocks at about 9.2 at the datum. Surface scans showing high concentrations of refractory metals and some odd silicate molecules.”

Drayman laughed, “Very good Liam, we’ll make a geologist out of you yet.”

Mitchon cut across the banter, "We need to get moving people, we only get one shot at this." The atmosphere staled a bit but Havers backed him up,

"Peter's right. Liam, I need orbital approach vectors and a de-orbit schedule asap. Lin, work with him. We'll stay connected to the *Leo* as long as possible before separation. Work out the loads and make sure the reactor can handle it. Peter, keep a close eye on the radar and cameras, there may well be asteroids this close to the planet's gravity well. Kevin and I are going to rehearse the de-orbit protocols."

"We're going in then", Drayman stated.

"Yeah, we're going in."

#### **Four - De-orbit**

The *Leo* was carrying four OTVs arranged around its mid-section and close to the main crew areas. Each OTV was two hundred and eighty feet long with a payload bay of half that length. They used chemical propellant to initiate a de-orbit burn and had a small fusion cell for the on-board power supply. With cranked delta wings spanning a full one hundred and sixty feet, they could carry thirty people alongside twenty five tons of material. The *Leo's* on-board fuel stores were empty and they didn't have the technology needed to manufacture more fuel on the surface of the planet; so this flight of the only undamaged OTV would be its last.

"Are the orbital approach vectors ready Liam?" Havers' voice had an edge now, the stress was telling on all of them.

Liam kept his tone neutral, this was not the time for a row, "Yes, it's all computed. With the reactor fuel spent we can't brake the *Leo* and establish an orbit. The best we can do is try for a straight in landing, using S-shaped turns in the lower atmosphere to dump speed."

"Ok, run up a program for that and dump it into the OTV's avionics. I don't want to be making critical flight adjustments like that manually. What's the optimal time to disengage?"

Liam checked his schedule, "Twenty seven minutes from now. I'll run off a hard copy of the descent plan for you."

"Thanks." Havers turned to Mitchon, "Peter, work with Liam to see where we're going to come down on the surface." Mitchon nodded and moved across so the two men could work together.

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Back in the payload bay most of the remaining crew members were already strapped in to their descent couches and Paul Mintman was organising the loading of their last pallets of supplies. He turned to Juliet Haynes, "How many left?"

"These are the last two," she replied, "I just hope we've got enough ..."

"We've done our best," said Paul, "we've packed medical supplies, seed stock, some processed foods, materials for heating and hydroponics, O2 and H2O generating equipment ... and there will be the OTV for a shelter, of course."

Juliet gently grabbed his arm, "I'm scared Paul."

He pulled her close and hugged her, "So am I. But we're still alive and we've found somewhere to go. Don't lose your hope, we'll get by." He paused and then added, "They'll be launching the navigation and distress buoy soon. Of course, the signal won't get back to Earth for another one hundred and forty six years. But there may be another ship that is nearer. In any case, we can hope that someone will come by to rescue our children."

"Children?" Her face said she didn't understand.

"We're stuck here Juliet. None of us are leaving. If we survive, some of us will have children. That's the way things are. We've got to give those future children the best possible chance to survive." He looked her in eyes and smiled, and then pulled away to make sure the last pallet was firmly strapped down.

Just then Melinda Kerry entered the bay. She must have seen the two of them embracing but she didn't say anything. Instead she brought them up to date on the situation, "Paul, Dean says you're to run a final check and make sure we've stripped as many essential supplies and equipment from the *Leo* as possible. You're responsible for ensuring everyone is strapped down five minutes before we disengage. The countdown will start in a few minutes."

"Ok," said Paul, "and good luck." Lin nodded and left for the bridge.

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Everything was ready and there was nothing else anyone could think of. The AI was performing its last service and giving the countdown to disengage; "Fifteen seconds to disengage .... twelve, eleven, ten ...."

Havers turned to Drayman, "Ready?"

"Yeah ..." he affirmed and hit a button on his console. On the flight deck monitor they saw the pyrotechnics fire and the protective shroud over the OTV was ejected. "Shroud away," Drayman confirmed.

The countdown continued, "... two, one, disengage!"

Drayman hit the release button on his joystick. There was a solid thump as they were released from the *Leo* and accelerated away from the platform.

"Good release, we're clear of the platform," said Drayman.

Havers spoke in a quiet voice, "Farewell *Leo*, you served us well."

Drayman was already running down the checklists, "We need to rotate the ship through one hundred and eighty degrees, so we're flying backwards, and then execute a twenty second burn to slow down."

"Roger," said Havers, "executing one eighty turn now." Using gentle pressure he gave his joystick a series of small turns, causing the manoeuvring thrusters to fire on the OTV. "Minus five, twelve, twenty three ..."

“Careful,” said Drayman, “we’re picking up speed on this turn.”

Havers was concentrating hard, “Ok, I’m on it,” he started firing the thrusters the other way, to slow their rate of turn, “ninety eight, one two one, one four nine, one five eight, one six nine, one seven one, one seven six ... we’re stable. Liam, is that good enough?”

Liam didn’t have a clue, “I don’t know Dean, and there’s no time to check it. I suggest we go with it.”

“I agree,” said Drayman.

“Right, give me a count for the de-orbit burn,” said Havers.

“Burn on my mark,” commanded Drayman, “three, two, one, mark!”

Havers activated the OTV’s main engine and they were all slammed into their seat backs while the ship decelerated.

“The clock is running ...,” said Drayman, “end burn in three, two, one, mark!”

Havers shut the engine down and they were weightless again.

“Right, let’s turn the ship back around and then nose up by twenty degrees,” said Drayman.

“Roger,” Havers glanced at his schedule, “twenty minutes to touch down!”

## **Five - Showdown**

Bringing the OTV down was a lot easier than Havers had imagined. The avionics automated a lot of his work and since they weren’t aiming for a particular landing site there wasn’t too much need to shift course. Deceleration in the atmosphere had been handled by Liam’s s-turn program but the final landing was going to be very rough. They were coming in over an impact crater about one

hundred and twenty miles in diameter. His radar showed the surface to be composed of an upper metre of 'soil', probably a finely ground regolith, covered by rocks ranging in size from small pebbles to large boulders. His eyes were straining to find a roughly flat site to set the OTV down on.

At two hundred metres altitude he dropped the landing gear and the ship lurched from the extra drag. At one hundred and fifty metres he spotted an area of deeper regolith cover out of the corner of his eye and made a fast decision, "Hold on everyone, here we go!" He pulled the OTV into a tight turn and then straightened up over the 'clear' patch.

"Good flying," said Drayman.

"I can't get the nose down," grunted Havers. They were travelling too fast and he couldn't lose height quickly enough to get the wheels on the ground. "Release the parachute, quickly!" He was struggling to keep the OTV level. One mistake now and a wing would catch on the ground, probably killing them all.

Drayman scanned his panels for the release button, armed it and let the parachute go. The OTV immediately bucked and Havers felt the extra braking power pull the nose up. He was just about to lose control when they slammed down. The wheels were immediately stripped off when they sank into the regolith. They were all thrown forward in their seats as the OTV slid for nearly two miles across the crater floor. Boulders reamed large chunks off its belly and the shriek of tearing metal was like listening to a cat being fried alive. Slowly the noise quietened down, and then stopped. The silence was overpowering.

They were down.

Havers hit the control to open the hatch between the bridge and the payload bay. He twisted in his seat and called out, "Is everyone Ok? How're we doing?" He was pleased and relieved to hear cries of "We're all right" and "Ok!" Drayman leaned across and shook his hand, "Well done!"

Havers removed his safety harness and turned to face Liam, Drayman, Mitchon and Lin; "Well done everyone." He smiled and shook all their hands. Just then the emergency lights came on in the payload bay and a big round of applause

sounded out. He heard Paul Mintman's voice call out "Three cheers for Dean. Hip, hip, hooray!"

Havers gave a small bow, "Thanks everyone, and three cheers to us all! We've made our first step, now we need to make this place home, and fast. I'd like to take a moment to brief you all on what's been happening, where we are and what we need to do next. Paul, can you sort us out some room to talk back there?"

"Can do, boss," he replied.

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There was a quick flurry of rearranging and then enough room for them to all talk together.

"Ok, there's been enough rumours, here are the facts ..." Havers began.

Mitchon stood up, "One moment. Who put you in charge Dean?"

"What?" Havers looked confused, "I'm not pitching for that, or grabbing it," he said, "but we need to get organised."

"I'm the highest ranking officer remaining," said Mitchon.

"No way are you in charge!" shouted Charlie Brewer from the back. There were strong words to support him from within the other thirty survivors.

"We should vote on it," said Drayman, "that's the best way."

"I do not give up my authority here." Mitchon shouted in reply, the anger showing in his face.

"That's why you're not the right person to lead us," shouted Maureen Hertzog from the back, "we need someone balanced, who we can trust."

Mitchon felt warm breath on the back of his neck. Then he heard Liam's voice in his ear, quiet, yet with the forceful assertion of a command, "So sit down and let us vote. We haven't got time to waste like this."

"What?" bellowed Mitchon, and he spun around with fists clenched. What he did not expect to see was the pistol pointing at his chest. He caught up short, in immense surprise.

Liam looked him straight in the eyes, his face cold and impassive, "You're a bully, Mitchon. A boozy, angry little bully. We all need to work together in order to survive here. So choose: either join us all in the team and be part of that, or walk."

There was a quiet pause in the room, and then Havers spoke up. "Come on, Liam. We all need to pull together. Put the gun down, then we can talk properly."

"No." Liam's gaze flickered to Havers but his attention never shifted from Mitchon, who was as tensely coiled to spring as a cobra. "Choose now, Mitchon. But I'm warning you, try it and I'll kill you where you stand."

Mitchon had always been able to control Liam before, when the chain of command ensured his bullying would go unpunished. Indeed, that degree of control had been quietly encouraged. But this situation was different. There would be no Board to support his decisions this time, and he had almost no support from the others. He couldn't survive outside and he didn't want to die; he could see the truth of Liam's warning in his eyes and the steady aim of the gun. Choking back his anger Mitchon sat down and faced the other survivors. Liam moved to the other side of the room, put the gun away and leant against the wall, "Let's have that vote, Dean," he said.

Havers took a deep breath and found his voice, "Are there any nominations for someone to lead us?"

The room was quiet and then Lin Kerry said, "Dean Havers." Juliet Haynes supported her quickly, "Seconded." There was a long pause and then each person ratified Dean as their leader.

“Ok, let’s get down to business,” said Havers. “Liam, I’ll have that gun, please”, he held his hand out...

Liam passed the gun over and met Mitchon’s gaze, “Sure thing, boss.”

Havers tucked the pistol into his belt and then started the briefing. “For those of you who don’t know, the *Leo* was badly damaged by debris accelerated by a supernova. We were knocked off course and left drifting. Rogers and Mitchon managed to get enough systems working to plot a course to this system. The only vaguely habitable planet we could detect was this one.

There are two major topographic regions, highlands north of the equator and something resembling ocean basins to the south. We’ve landed in a crater in one of the southern basins and that places us about four miles lower than the northern average. We’ve been lucky. This means we’re covered by a good blanket of atmosphere to shield us from the ultraviolet radiation coming from HD188753’s primary star. Even so, the surface radiation is high and we are going to have to be careful.

The average temperature is -183 °C and it’s going to get colder when the primary sets in a few hours.

We need to rig up extra power supplies, lighting and heating in here. We need to investigate the terrain immediately outside and see if we can get the OTV covered with a layer of soil. The more we can cover ourselves up the more protection we’ll get from the radiation, and it will help to hold in some heat.

We need to get the O2 and H2O generators up and running. We also need to turn this payload bay into somewhere we can live.”

Havers could see fear starting to register on some of their faces and realised he needed to get them all working quickly. “We’ve a lot to do. I know you’re all feeling a bit shocked, but we have to start working right now. Any delay could jeopardise our survival,” he continued. “We’ll split into 3 teams. Team One will be led by Peter Mitchon and make a quick survey of the boulder field around the OTV. Team Two will be led by me; we’ll work on burying the OTV as deeply as

possible. We'll use spacesuits to provide O2 and some protection from the cold. Team Three will be led by Liam; you'll provide the power, heating and lighting in here, and get the generators going.

Team leaders meet with me now. We'll select people and get this going."

Havers turned around and moved off to the bridge, Mitchon and Liam followed.

#

The hatch closed behind him as Liam followed Mitchon onto the bridge. Havers was already sat down, his pilot's chair swivelled to face towards them.

"Please, sit down," Havers asked. He was sat with one leg crossed over the other, his thigh supporting the pistol which was loosely pointed in their direction. They sat.

There was a long moment of quiet tension in the room while Havers watched them. Then he spoke in a quiet and controlled, yet very firm voice; "I need every survivor to work together. If we split into factions driven by personal rivalries we'll all suffer, maybe die. Tell me, can you two get on?"

The room fell quiet again. Liam and Mitchon looked at each other but neither spoke. Whoever answered first might fall into a tactical disadvantage over the other. The silence continued.

It was Mitchon who shifted first, "I guess this a new situation. We've all been under a lot of pressure and behaved in unusual ways. I think we can work together."

Both men turned to look at Liam. He still paused before replying, trying to hold as much advantage over Mitchon as possible.

"Yeah, if Mitchon's going to cooperate then I think we can all work together." It was an answer that gave the words that Havers wanted to hear,

without committing him to any particular action. Instead it kept the pressure on Mitchon to fit in.

There was another pause and then Havers nodded, "Ok. Let's work together on this. Right, Liam, who do you need?"

Their planning continued for another thirty minutes and then they started to process of carving out a new home.

## **Six – And the foundations shifted. Four months later ...**

"What are you talking about, Kevin?" Lin Kerry sounded tired and frustrated. She was stood in their makeshift infirmary, half turned away from Drayman. As mission biologist she was the closest thing they had to a doctor and she didn't have time for this. Half the survivors were struggling with lung infections and three had died already. They had only buried Juliet Haynes, her best friend, yesterday. She still had dirt from the grave under her fingernails. She was tired and sad, and just wanted Drayman to go away.

Drayman counted to five in his head, took a breath and tried again. "Look, so far we've all thought that these chest infections were coming from inhaling micron-sized dust particles. The rocks outside have been chopped to a really fine regolith over time and there are plenty of small particles out there."

"Yeah, I know that. I've got things to do."

"Just listen for once," Drayman sounded cross. How hard could it be to get her to understand? "We've done some tests and we're pretty sure of the results. We've all been assuming that the wind drives these particles through the spacesuits and door-seals. But most of the time there isn't much wind. Yet there always seem to be sand dunes forming on the crater floor near the OTV. Why is that?"

"I don't know and I don't care. I need to get back to looking after these people!" She turned away from him.

"Lin. Some of the particles we've examined have little fibre-like growths, like hairs. Sometimes two, sometimes three; made of silica. First of all we thought they were crystalline, you know, like the fibres that form in crocidolite or

chrysotile. But these are silicate crystals. Leigh Askins and I have studied these fibres. We think they might be cilia, slowly waving and helping the grains to move.”

“What? Are you saying these rocks are alive Kevin?”

“We’re saying that some of these particles might be alive, yes. And they might be finding the OTV and our bodies to be very useful environments. Carbon-based life isn’t a natural feature on this planet. We’re a novelty, a novel environment. We provide warmth, shelter, fairly constant chemistry; a haven for these little critters.”

“Oh come on!”

“We think these accumulations of micron-sized silicate particles in our lungs might actually be growths from a silicon-based lifeform. I’m asking you, as our only medic, what kind of tests could we run to prove it?”

Lin fell quiet while she thought it over. Finally she turned towards him, “I could autopsy one of the recent deaths. We could take samples from the lung and see exactly what had happened. If you’re saying these things are growing in our bodies then we should see non-random structures. But you’ll have to convince Dean. I’m not doing this without his approval.”

Drayman reached into his pocket and passed her a slip paper.

Lin examined the signed paper from Dean Havers and then stuffed it into her pocket. “I’ll do it tonight, when most people are asleep,” she said. “You’ll get the results as soon as I’m finished.”

“Thanks, Lin,” Drayman said.

“Don’t, I’m not thanking you for the task.”

## **Seven - The centre never holds**

Even with just the four of them “on the bridge” the room felt crowded and oppressive. They were holding a command conference to discuss the disease

that was consuming the crew so quickly. The air was charged full with tension. Liam's chest was so tight it felt like he was trying to breathe under a pile of waste from their ore crusher.

"What do you mean the scanner packed up?" Mitchon was really angry, a vein pulsing on his balding skull. Lin Kerry backed away from him, stepped around Liam and sat down next to Havers.

Liam held up a hand, trying to calm Mitchon down, "Steady on, it's not her fault. It's a miracle these machines are still working at all."

Mitchon turned on Liam, letting the full force of his contempt run free, "Maintaining those machines is your responsibility, Rogers. I always said you weren't up to it. Your ego is bigger than your capability and you've screwed us all this time!" He got out of his chair and leaned over Liam.

Havers grabbed Mitchon's arm just in time and then charged him back down into his seat, like a bull running down a matador. Using his body weight to hold Mitchon still, Havers spoke firmly in his ear, "Shut up Peter. Any more of this and I'll have you chained up." Mitchon continued to struggle so Havers planted his knee in his groin and pushed hard, "I mean it." Mitchon sank back, his energy burnt out, "Yeah, Ok."

Havers released him and warily sank into his own seat. Mitchon was fairly easy to control but his frequent tempers were a drain on everyone else. Too often Havers had to intervene before a situation got too out of hand. Some people had enough hate for Mitchon that just a little more pressure would be enough for an 'accident' to happen. Havers couldn't afford to lose anyone, even Mitchon, but keeping everyone working together was a full-time job. He let it go quiet for a few moments and then he turned back to Lin, "What did you manage to find out?"

"The lung tissue was encrusted with crystalline silicate webs. The crystals had punctured the lung and growth had continued within the body cavity. All told there was nearly half a kilo of material present," she paused for a moment, then added, "There was a clear structure to the growth, just as Kevin predicted."

"Oh shit! After all we've been through, now this?" Havers could not believe it. "What can we do?"

"Not much. We've all been exposed and are probably carrying the organism. Slowing our intake of silicate dust will slow the process down, but that's nearly impossible here. I've called these things 'bio-sils."

Liam looked at her, "Medically, is there anything we can do? Surgery? Drugs?"

"No, nothing. We'd need a clean environment and uncontaminated donor tissue. And that stuff's about one hundred and forty six light years away."

Mitchon sneered at him, "What are you going to do Rogers? Re-train as a surgeon?"

"You've got a nasty mouth, Mitchon."

Havers broke in fast, "All right! We have to work together on this, so cut the crap." He paused, then asked Lin, "How long have we got?"

She glanced at her notes but knew the answer anyway, "At best, it will be about six months before we're all dead. Maybe a bit longer if we stay inside."

It fell quiet again. Then Liam quietly asked, "Who did you autopsy?"

Lin met his gaze coolly, "Juliet. Her body was the most ... fresh."

"I'm sorry."

"Yes."

## **Eight - And nobody sang a requiem**

Mitchon was working in the tunnels they had dug under the OTV, trying to slow the spread of the organisms infesting their lungs. Teams inside were stripping out the heavy wall panels he was welding across the underground archways. He paused to adjust the volume on his radio and then fixed his attention

to a particularly stubborn section. It was a difficult job because no matter how he twisted the joints on the spacesuit they didn't want to align in the right direction.

Things were progressing well and for once he was happy. He felt calm, cocooned in his own world, with a clear task ahead of him and the quiet hiss of the suit's oxygen feed in his ears.

He didn't hear the light and purposeful tread of the footsteps behind him. He had a faint sense of danger and just started to turn as the blade punctured his back, pushed through his heart and emerged through his rib cage. He briefly screamed at the white hot agony, his death cries cutting across the work chatter on the radio network, and then fell to the floor, dead.

The murderer quickly ran off into the shadows of the tunnels.

#

"I'm sorry, Liam. It's for your own good", said Havers as he pushed him into the storeroom.

Liam cast him a withering look of disgust and shouted back, "I did not kill Mitchon!"

"I don't know what happened. I don't know if you did, or you didn't. But I do know that enough people think you did to make it very dangerous for you. We don't kill each other, Liam. Some people are feeling very angry and very scared ... maybe scared enough to deal with you."

"I'm innocent, Dean. You've got to believe that."

"We'll talk about that shortly. In the meantime we need to finish sealing the OTV. Just hang tight. You won't be waiting here long."

"Ah, come on, Dean. This is a load of crap, I ..." The door slammed shut in Liam's face, cutting off anything else he had to say.

Havers turned to Paul Mintman and held out the pistol. "Keep him in there. He doesn't come out, nobody goes in."

Mintman nodded and took the gun, "Right."

#

Havers faced the small 'jury' on the bridge. The evidence was pretty complete and damning. The knife had Liam's DNA on the handle, his access card was the last to leave the OTV after Mitchon and the boot prints near the corpse were his size. The hate between the two men was obvious and gave Liam a strong motive for murder. "We've seen the evidence. I need your votes. Innocent, or guilty?"

He turned to look at Drayman and waited. "Guilty."

Tina Footman was next. She couldn't look at him but spoke up in a quiet voice, "Guilty."

Charlie Brewer answered quickly, "Guilty."

Havers nodded, "I agree," he said. "All the evidence indicates Liam is guilty. He had opportunity and motive. Sentence will be carried out immediately." He rose and left the bridge, the others followed.

#

Mintman looked up as the four of them approached. Havers held out his hand for the gun and then opened the storeroom door. Liam was sat quietly in the corner and blinked his eyes rapidly as the door swung aside, "You could have left a light on."

Havers met his eyes, "Sorry. And sorry again. You have been found guilty of murder. Sentence will be carried out immediately ... now. Get up."

Liam noticed the gun pointing steadily at his head. He got up.

Havers' voice was firm, "We'll go to the airlock now. Let's get this done quietly. I don't want to upset everyone else with this."

"Oh yeah. I guess we don't want to spoil anyone else' day." Liam's voice was full of anger, resentment and sarcasm.

Havers didn't say anything in reply, he just pushed Liam down the corridor with the gun. They marched quietly through the OTV but by the time they reached the airlock a small group was waiting for them. Havers spoke firmly, "Ok everyone. We all know what's happening here. The law is clear and he has been found guilty. Move aside."

The group shuffled for a minute and then Melinda Kerry stepped forward. "Liam didn't kill Mitchon. I did."

There was a hushed silence. Then Havers asked, "What?"

Lin looked around the group, feeling their amazement and the anger that was building between them. She had to explain fast. "We all know Juliet and Paul had something going, were almost 'man and wife', whatever that means here." The others nodded in agreement. "What you don't know is that from time to time Mitchon was forcing her to have sex. You know what he's like. He just piled the pressure on and threatened to make life very dangerous for Paul ... he had a way, you know, of making you feel very small and vulnerable, and alone."

They all knew how Mitchon could be. But would he have forced someone, one of them, to have sex?

Lin carried on, "Just before she died, when she was lain up in the infirmary, unable to move much ... Juliet told me he'd come in and raped her. I didn't believe it ... but when I did the autopsy I checked. He ...," her voice cracked and tears flowed from the corners of her eyes, "... his DNA was in her. I just couldn't get the image out of my head. I slipped out behind Liam, before the door closed. I saw his knife on the floor and grabbed it in case Mitchon attacked me. When I saw him working all the hate bubbled up inside me ... and I stabbed him!" She collapsed in tears of shame and fear that she would now get Liam's punishment.

Havers thought for about two seconds and then made his decision, "To hell with it. We all know what he was like. If this story is true he had it coming. If not, well ... we need a doctor more than we need justice right now. The best guess is we've got less than six months left before we're all dead. Let's try to concentrate on keeping the rest of us alive." He turned to Liam, "Sorry." Then he walked off back towards the bridge.

The group slowly drifted off until Lin was left alone by the airlock, slumped on the floor with her head in her hands, slowly rocking back and forth.

### **Nine - Everything looks better in the morning**

Liam twisted in his deckchair and turned to Drayman, "Have you noticed just how much the atmosphere has changed?"

"Yeah. Now we're getting much more of the combined light from the three suns all sorts of gases are being released from the rocks and soils." Drayman laughed, "It's quite an explosive mixture. Shame the last two people who could experience it are full of the disease, eh?"

The two men were sat on reclining flight chairs brought outside from the OTV. Their lungs were full of bio-sils and they'd seen enough of their friends die to know they only had a few days left. So they were sat outside in their spacesuits, waiting for the sunrise.

Drayman noticed more sand-slips on the dunes surrounding the OTV. The sands were piled about thirty feet high and growing daily. "Look! The grains are picking up a lot of charge now. As they slide past each other you can see the blue arc as they discharge." He pointed to an area that was still in shadow and Liam saw the faint flashes.

"I wonder why no higher organisms ever developed on this planet?" Liam asked.

"Don't know, and don't care," Drayman replied. "It's a very harsh place to live."

“Have a drink,” Liam suggested.

Drayman sucked on his liquids tube, coughed as the raw alcohol slipped down his throat and grinned, “Smooth.”

Liam nodded, “Best use for surgical alcohol I can think of!” He chugged a big gulp, “Fruity number, needs a little attention ...”

Just then the full force of the third sun rose over the horizon and they were bathed in intense heat, their suits’ coolant systems struggling to keep their bodies from baking where they sat.

Drayman noticed a very bright spark from the shadowed dune as a whole section collapsed towards them.

The spark was intense enough to ignite the volatile gases being vented from the dune. Liam’s last regret was that they hadn’t been able to repair their systems and leave a warning on the distress buoy. The two men gasped in wonder and pain as the fireball swept over them, incinerating their bodies to ashes in seconds.

**The end.**