

BEFORE THE SIGNAL

Mike Muzzy

FIRST FOUR CHAPTERS

Reader feedback edition

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Thirteen Seats

Somewhere in Texas, 1981

Texas lay broad beneath a clean blue sky. The fields beyond the launch complex stretched flat toward a horizon softened by heat. A few white clouds had formed far to the east, too lazy to become weather. The wind was light enough that smoke from a distant barbecue would have risen almost straight before drifting away.

It was porch weather.

Rocking-chair weather.

The kind of afternoon made for cold bottles sweating on wooden tables, steaks over charcoal, a radio playing somewhere inside the house and somebody saying there was no reason to hurry because daylight would last for hours.

From far enough away, the launch vehicle was merely another vertical line against the sky.

Inside it, Mike was strapped to enough explosive fuel to make the peaceful afternoon seem like a practical joke.

The passenger cabin smelled of warm metal, rubber, disinfectant, electronics and people pretending not to be afraid.

Thirteen acceleration couches filled the compartment. They were half seats, half beds, and looked uncomfortably like

metal coffins. Once strapped in, a passenger was not really sitting or lying down but held somewhere between the two.

The passengers had spent the final three months of a longer preparation programme training together, but launch morning had scattered them through individual final procedures. Medical. Mission briefing. Personal communications. Documentation. Last-minute equipment checks. Each person had been collected separately afterward and escorted to the spacecraft by launch personnel.

They had been arriving one by one for nearly an hour.

Mike had learned more about the others during those three months than he had expected and much less than he would have liked.

He knew Céleste Varenne was a pilot because she had a habit of inspecting every vehicle she entered before trusting it. Even now, strapped into a couch across the cabin, her eyes moved over the restraint anchors and hatch mechanism with professional concentration.

He knew Daniel Justice liked procedure. It kept him calm and composed. Daniel had checked his own harness after two technicians had already did..

He knew Serena Thunder found Daniel's seriousness amusing. She had watched him check the harness and smiled despite being visibly nervous herself. Daniel had recited the relevant instructions from memory as he worked.

He knew Burton Trouble had driven trucks. Burton's extraordinary confidence in his ability to survive circumstances that worried more sensible people kept him calm. He appeared to regard interplanetary launch as

another transportation problem somebody else had been paid to solve.

Burton lay back with his hands resting loosely over the harness.

"You comfortable?" Mike had asked when Burton boarded.

"No."

"You look comfortable."

"I look good uncomfortable."

That had been the end of it.

Layla occupied the couch beside Mike.

She had been composed throughout training—observant, carrying herself with a quiet assurance that made crowded rooms seem less crowded around her. Today one hand kept finding the small pendant at her throat.

Mike had never asked about it.

He almost did now.

Instead he said, "You all right?"

"No."

"Good."

She turned her head toward him.

He shrugged as far as the harness allowed. "Would have worried me if I was the only one."

That earned half a smile.

Tobias Nightglass was two rows forward.

He had been watching the hatch impatiently since he arrived.

“Has Anja come through?” he asked a technician.

“Not yet, sir. Still loading passengers.”

Tobias nodded.

At that point there had been six empty couches.

Another passenger arrived.

Then another.

Kumiko Takahashi paused inside the hatch while a technician found the communications lead for her couch. She moved aside to let another man pass, then asked him to repeat the connection check; his first answer had been lost beneath the ventilation. Mike remembered her doing the same thing in training. If she had not heard an instruction, she made the instructor say it again.

Rafael Costa came through carrying a soft bag close against his leg. It caught the edge of the hatch. He stopped, freed the strap, and continued without handing the problem to the technician behind him. Meera Rao followed. Before surrendering her own bag for stowage, she checked the label against the number on her couch. The technician held out his hand and waited. She finished checking, then gave it to him.

Ama Mensah and Patryk Kowalski had the forward couches beside the flight controls. From Mike’s seat, the backs of their supports partly hid the instrument panels. He could see enough to notice that neither of them was watching the hatch. A technician stood between their stations with a checklist, waiting for their answers.

Ama lowered herself into her couch and lifted her arms clear while the restraints were drawn across her. When the technician asked whether anything pinched, she indicated a fold beneath her shoulder. He smoothed it out. She settled back, checked that she could still reach the controls and turned her attention to the course display. During training, Mike had watched her follow a doubtful figure back through the calculations until she found the reason for it. Now she read the figures aloud while the technician checked them against his sheet.

Beside her, Patryk was finding room for his elbows between the restraint and the console. After two adjustments, he looked back toward Mike and raised one eyebrow. Then the technician called the next check, and Patryk turned forward. His eyes moved from one indicator to the next before he answered. Mike had heard him identify a change in a training rig by its sound before the instructor pointed it out. Here, with the machinery below them beginning to wake, he listened between the technician's questions. Ama had returned to her display. Their places at the front of the cabin looked considerably less restful than Burton's.

Mike knew the others better than those small movements suggested. Three months of training had given him their names, professions and habits, but not their histories. He knew who hated the centrifuge, who snored during the isolation exercise, who drank coffee after midnight and who always volunteered first when instructors asked for somebody to demonstrate an unpleasant procedure.

That was enough for training.

It was not enough to understand why any of them had agreed to leave Earth.

The technicians worked around them with practiced indifference to history. Harnesses tightened. Communications leads connected. Personal bags disappeared into lockers. Checklists were signed and passed back through the hatch.

Tobias asked again.

“Anja Keller?”

The technician beside Céleste shook his head. “I don’t have the boarding order, sir.”

Tobias looked toward the empty couches.

There were two now.

Then one.

The last arriving passenger was strapped in.

The thirteenth couch remained empty.

Anja Keller’s name was still on the passenger list. Mike looked from the vacant couch to Tobias, then back toward the hatch.

Mike noticed Tobias watching the hatch again.

A speaker crackled overhead.

“T minus thirty minutes.”

The cabin changed.

Until then, boarding had felt like work. People moving. Technicians talking. Buckles clicking. Paperwork changing hands.

Now there was a number.

Thirty minutes.

Outside, somewhere beyond the fences, somebody was probably turning meat over a grill.

Inside, the launch crew began removing the last equipment from the cabin.

Tobias raised his head.

"Excuse me. Anja still isn't here."

One technician glanced toward the hatch. "There's still ground crew aboard, sir."

It was not an answer, but it was enough to postpone panic.

"T minus twenty minutes."

Something heavy moved below them.

The sound came through the spacecraft structure: a mechanical thump, then a low vibration that climbed through Mike's couch and settled somewhere behind his ribs.

Layla's fingers closed around the pendant.

Céleste tilted her head, listening.

Daniel looked at the countdown display.

Serena looked at Daniel.

Burton Trouble closed his eyes.

Mike stared at him.

"You sleeping?"

"No."

"You planning to?"

"Wake me when we get there."

Mike almost laughed.

Across the cabin Tobias did not hear them.

"Where is she?" he asked.

No one answered immediately.

The final cabin technician was checking restraint indicators row by row.

"T minus ten minutes."

White vapour began to move past the small window.

The peaceful Texas afternoon disappeared behind it.

Tobias turned toward the technician.

"Anja Keller. Architecture. She should be in that seat."

"I know who she is, sir."

"Then where is she?"

The technician hesitated.

Mike saw it.

So did Tobias.

"What?" Tobias said.

"I don't have authority to discuss changes to the load order."

Tobias's face tightened. "What changes to the load order?"

The technician moved to the next restraint.

"What changes to the load order?" Tobias repeated.

"Tobias," Daniel said quietly.

"No. She was cleared. She was with us yesterday."

The technician kept working.

The cabin speaker interrupted them.

"T minus five minutes. Prepare for final hatch secure."

Mike watched the last technician cross the cabin. The man checked the vacant couch and moved on.

Tobias lifted his head.

"Anja Keller. She hasn't boarded."

The technician stopped with his hand against the hatch frame.

"Sir. The orders changed."

"What orders?"

"She's not going."

Mike had been listening to the ventilation. Now he could hear nothing else.

Tobias caught the harness release.

"I'm getting out."

Daniel turned toward him. "Tobias."

"Stop the count. Open the hatch."

The technician shook his head. He backed through the opening before Tobias could ask again.

"ANJA IS SUPPOSED TO BE HERE."

The door swung shut.

Mike felt the locking mechanism through the frame of his couch. Each engagement was a small blow against his spine. He had expected the rocket to frighten him. He had not expected a door.

"T minus four minutes."

Tobias was still pulling at the restraint.

Mike tried to think of something useful to say. Nothing came. Across the compartment, the vacant couch had its own belt, its own headset, its own little reading lamp. Everything a passenger needed except the passenger.

Outside the narrow window, Texas remained blue.

"T minus three minutes."

The ventilation changed note. Mike swallowed and discovered that his mouth was dry.

He had signed the forms. He had passed the exercises. None of that had required him to believe that the ground would actually leave him.

"T minus two minutes."

A tremor travelled up through the couch. He pressed his heels against the foot supports, testing something that had already been tested for him.

Burton opened his eyes.

"T minus one minute."

Céleste drew a slow breath. Daniel held himself motionless while Serena reached for his hand. Beside Mike, Layla pressed her pendant into her palm.

He looked at the window once more.

A field. A service road. A sky that ought to have belonged to an ordinary afternoon.

The final count came through the speaker.

"Ten."

The couch began to shake.

"Nine."

Mike kept his head against the support.

"Eight."

Someone behind him began to pray.

"Seven."

He could no longer hear the words.

"Six."

Tobias pulled once more at the harness.

"Five."

There would be no walking back across the gantry now.

"Four."

Céleste closed her eyes.

"Three."

Burton said, very quietly, "Well. Here we go."

"Two."

The engines came alive beneath them.

"One."

Mike drew breath to say something to Layla.

"Zero. Liftoff."

The words vanished inside the roar.

His couch drove against him. The window slid beyond his line of sight. For a moment he could not tell whether they were rising or whether the whole of Texas had dropped away.

Then the cabin disappeared into black.

The First Four

Cape Canaveral*1, 1979

The confirmation did not arrive as one clean sentence.

It came in pieces.

A controller at the Soviet liaison console lifted one hand.

“Sir. Moscow confirms telemetry.”

At the Japanese station another voice cut across him.

“Tsukuba*2 confirms surface signal.”

A European tracking officer leaned over his headset.

“Darmstadt*3 has carrier lock.”

The room had become very quiet.

At the center console, Flight Director Warren Cole did not move.

“Crew?”

“Waiting.”

“How long?”

“Signal should be here now.”

It was the most useless sentence in mission control. Signals did not care what men thought they should do.

Then static broke across the speakers.

A voice came through unmistakably Texan.

“Houston*4, Mars Surface. Eagle Four is down. Repeat, we are down.”

For three seconds nobody reacted.

Then the room broke.

Men stood. Someone shouted. A Japanese engineer embraced a Soviet communications officer before either of them seemed to realize what he was doing. A row of American controllers applauded. One of the European observers struck the desk with both palms.

Cole allowed it for perhaps ten seconds.

Then his heavy voice rolled across the room.

“Enough.”

The applause died reluctantly.

Cole looked at the mission clock.

“Begin the next phase.”

Two hundred million kilometres away, depending on which set of orbital numbers one preferred that week, four men were already discovering that history was mostly work.

Utopia Planitia*5, near Chincoteague Crater*6

The lander settled on six articulated legs and stopped moving.

For a moment nobody inside spoke.

Tom Hale watched the instrument panel. Green lights. Stable pressure. Descent engine shutdown confirmed. Guidance computer satisfied. The numbers looked almost offensively ordinary.

Sergei Morozov broke the silence.

“Well, comrades.” His Russian accent thickened when he was tired. “First delegates of humanity on an alien planet.”

Klaus Richter leaned forward to inspect the final descent readout.

“First delegates with three per cent more lateral drift than planned.”

Morozov looked at him. “Klaus, someday you will ruin a perfectly good historic moment.”

“I am an engineer. That is why they brought me.”

Hiroshi Nakamura checked cabin pressure and suit telemetry.

“Cabin stable. Suits stable. We should inspect seals before opening the hatch.”

Hale released a breath.

“Well, boys. We made it.”

Morozov smiled.

Hale added, “Now let’s make sure we can stay.”

That ended the historic moment.

They checked each other’s suits twice.

No national flag waited beside the hatch.

That decision had consumed more diplomatic hours than several pieces of flight hardware. Washington wanted the Stars and Stripes. Moscow wanted the Soviet banner. Tokyo and the European partners had objected to both. The

eventual compromise had satisfied nobody and therefore had a chance of surviving.

They carried one flag.

Mars.

It was simple: a dark field, a red disk and four narrow lines meeting beneath it, representing the four mission blocs that had paid for the first landing. The politicians had called it a symbol of shared human purpose.

Morozov had called it cheaper than carrying four poles.

The hatch opened.

Mars entered as light.

Not air. Not sound. Light.

Rust-red ground stretched away beneath a salmon sky. The horizon seemed too close and too far at the same time. Chincoteague Crater's low rim broke the plain in the distance. Shadows were sharp. Everything looked ancient enough to resent footprints.

Hale descended first because the mission plan said he would.

His boot touched Mars.

He stood still.

The words prepared for him by three committees disappeared from his mind.

He looked at the horizon, then at the cargo field.

"Well," he said over the radio, "we've got a lot to do."

Cole heard the sentence minutes later in Houston and closed his eyes.

Months before the crew arrived, an unmanned cargo ship had landed near the chosen site. It had brought prefabricated structural grids, pressure panels, tanks, a compact fission power unit, solar collectors, processing equipment, food, tools, spare suits and two small construction robots scarcely taller than a man's knee.

Those little robots had spent months teaching their operators on Earth patience.

A command crossed interplanetary space. Minutes later it reached Mars. A robot moved an arm. Telemetry returned. Minutes later Earth discovered whether the arm had done the right thing.

An hour's job could consume a shift.

Still, the robots had erected frames, sorted cargo and marked the footprint of the first habitat. They had also recorded every failed attempt.

Hale walked the site with a laminated plan strapped to his forearm.

Richter followed.

"Klaus."

"I see it."

A structural joint sat four millimetres out of line.

"Robot fastened it from the wrong side," Richter said.

"Can we live with it?"

"No."

"Good. I was afraid you'd say that."

They unbolted it.

Morozov opened the power equipment and began inspecting connections. Nakamura knelt beside one of the little robots and downloaded its log.

“Sergei.”

“Yes?”

“This one has attempted the same panel for four days.”

Morozov looked over.

“Persistent.”

“The bracket is bent.”

Nakamura straightened it with a hand tool and reset the machine.

The robot lifted the panel.

It fitted immediately.

Morozov stared at it.

“Four days.”

“Four days.”

“We came two hundred million kilometres to hit a bracket with a wrench.”

Nakamura nodded. “Humanity has advanced.”

They worked through the first night.

The habitat skeleton became walls. Pressure sections became a room with a hatch heavy enough to make a man trust it.

No one called it home.

On the second day Nakamura unfolded the robotic miner. Earlier probes had confirmed buried ice beyond the low ridges. The machine crawled away across the plain carrying drills and a hopper.

If it worked, ice became water. Water became oxygen and hydrogen. Oxygen became breathing. Hydrogen became stored energy and industrial feedstock.

If it did not work, four men had ten days of supplies and a lander that could still take them back to orbit.

That margin governed everything.

For four days Mars behaved.

The miner reached the ice field. The habitat passed preliminary pressure tests. Morozov brought the starter power system online. Air moved through scrubbers. Hale sat inside the unfinished room with his helmet on and listened for a hiss. It did not come this time.

On the evening of the fourth day, the horizon disappeared.

At first it looked like a stain.

Then the sun weakened.

Dust gathered against hinges and connectors. Visibility collapsed.

The commander aboard the orbital ship ordered them into the lander.

They crossed by guide line.

When the hatch shut, dust whispered against the hull.

The nearly finished habitat stood less than a hundred metres away and might as well have been on Earth.

They remained trapped for three days.

The lander had been designed to carry four men through descent and ascent, not to serve as a hotel.

Carbon-dioxide cartridges filled faster than planned. Solar output fell. Batteries carried circulation fans that were never supposed to run continuously. Four flight seats and three narrow berths forced them into six-hour rotations in which nobody actually slept.

Hale scratched a mark beside the hatch for every hour the weather station remained blind.

At nineteen marks Morozov looked at the wall.

“You are making this place look like a prison.”

“Give me a better view.”

On the sixth day Richter spread the ascent checklist and calculations across his knees.

“If the storm stays tomorrow, we leave without finishing.”

“And if it stays longer?” Morozov asked.

Richter did not answer.

The miner stopped transmitting.

The forecast changed twice.

Earth’s answers arrived after the questions had become old. The ascent margin kept shrinking.

By the seventh morning Hale’s marks reached sixty.

Then the window brightened.

Nakamura leaned toward the weather display.

“We have a horizon.”

They were outside within an hour.

Mars had rearranged their work.

A connector was packed with dust. A test port had lost its cap. The miner had stalled twenty kilometres away with ice in its hopper. Two leaks appeared in the habitat where none had existed before.

Mission Control sent the order to abort surface operations and prepare for ascent.

The four men stood between the lander and the habitat while sunset touched the new metal.

“We can go now,” Morozov said. “That is the last good decision anyone can guarantee.”

Richter touched the repaired pressure seal.

“A month before another attempt. The engineering team stays in orbit. And when They arrive down here they still have nowhere to live.”

“We have the ice,” Nakamura said. “We know the faults.”

Hale looked at the habitat.

Then he keyed his radio.

“Orbit, this is Hale. We heard the order. We’re staying to finish Camp One. Over and out”

The answer was immediate.

“You will lose certified ascent margin. This is against the protocol.”

“I know. Thats why I said over and out”

“Mission Control will want a reason.”

Hale watched three helmet lights moving across the darkening site.

“Tell them we will make it work. Or else...”

Nobody gave permission.

Nobody physically stopped them.

On day eight the shell held pressure.

On day nine the scrubbers failed twice.

On day ten the oxygen compressor and water pump tried to start together and repeatedly tripped the generator protection.

Hale and Morozov stood outside with suit batteries sinking toward warning levels while Nakamura changed the control sequence from inside.

“New sequence loaded,” Nakamura said. “Sergei, cut the pump.”

Morozov threw the switch.

“Three. Two. One.”

The compressor started.

The breaker held.

At Nakamura’s signal, the water pump returned at half load.

No warning light followed.

An hour later all four men stood inside the habitat without helmets.

The air smelled of hot insulation and human sweat.

It was the best air any of them had ever breathed.

They took couple hours to take in their achievement. Rested and regained the mental capability. When the emotions and the stress finally gave way to some piece, Hale called orbit.

“Camp One is operational.”

The answer was immediate.

“Camp One this is Orbit we hear you loud and clear. We will pass the good news down to Mission control.”

“Thank you Orbit, Awaiting further instructions”

“Orbit, Camp One are you ready to receive the package?”

“Camp One, Orbit we have the red carpet ready, repete the red carpet is ready”

Four days later, the soldiers came down.

*1 Cape Canaveral is a real space-launch location on Florida’s Atlantic coast. Nearby Kennedy Space Center launched the Apollo lunar missions. The 1979 Mars operation in this chapter belongs to the ARES FM alternate timeline. Sources: NASA Kennedy Space Center ; NASA Apollo astronauts land and take first steps .

*2 Tsukuba Space Center is a real Japanese space-development facility opened in 1972. Its participation in this Mars operation is fictional. Sources: JAXA Tsukuba Space Center .

*3 Darmstadt is the German city where the European Space Operations Centre opened in 1967. The control centre is real; the Mars tracking exchange in this scene is fictional. Sources: ESA ESOC Darmstadt 1967 .

*4 “Houston” refers to the real mission-control centre in Texas, which began controlling crewed flights with Gemini IV in 1965. Eagle Four and this Mars landing are fictional. Sources: NASA Mission Control transfers to Houston .

*5 Utopia Planitia is a real named plain on Mars. The settlement and its construction history in this novel are fictional. Sources: USGS Gazetteer Utopia

Planitia .

*6 Chincoteague is a real Martian crater named after a town in Virginia, USA. The International Astronomical Union approved the crater's name in 1979. Sources: USGS Gazetteer Chincoteague .

Day Fourteen

The military engineers did not arrive like conquerors.

They arrived carrying tool cases.

The descent craft touched down two kilometres from Camp One because nobody wanted its exhaust throwing stones through the first pressure shell on Mars.

Hale watched it descend through a copper sky.

The vehicle was larger than their lander, ugly and functional, with cargo panniers around its lower body and twelve people packed into the upper cabin.

Morozov stood beside him.

“Here comes civilization.”

Hale looked at the habitat behind them.

“Tell civilization to bring spare filters.”

The hatch opened.

Lieutenant Colonel Margaret Shaw descended first.

She was British, forty-one, Royal Engineers*7. Before Mars, Margaret Shaw had commanded engineering detachments on work that seldom reached a newspaper: flooded installations, damaged bridges, water systems whose repair could not wait for the next budget meeting. Her men knew that she read the survey before giving an order and went out to look when the survey made no sense.

During one flood response, a temporary crossing began moving under its load. A senior officer wanted the last vehicles across before the route closed. Shaw stopped them. She moved the waiting drivers back, sent a small inspection party along the bank and found that the approach had been undermined beneath an apparently sound surface.

The officer arrived while her crew was rigging a safer crossing upstream.

"You were told to keep the road open."

"I was told to get them through, sir."

His complaint entered the file. So did the engineer's report confirming the failure beneath the approach. Shaw completed the evacuation before nightfall. On the final trip, she rode beside a young driver whose hands shook so badly he could barely fasten the strap.

"Look at the man signalling," she told him. "Drive where he puts you."

He did.

The recommendation for her promotion followed six weeks later. The promotion did not.

It was not the first time. She trained officers who subsequently became her seniors. Boards praised her command judgement and found reasons to choose somebody else for the next appointment. One letter described her as exceptionally capable in a demanding specialist role. Another questioned whether troops drawn from different services would accept her authority.

She kept both.

By the later 1970s, being a woman still entered conversations about her command more readily than the condition of the men and equipment she commanded. Some objections were spoken plainly. Others arrived dressed as doubts about suitability, continuity or the requirements of the post.

Shaw continued taking the work. She improved maintenance routines, held junior officers responsible for checking what they signed and made sure a corporal could report a dangerous fault without having to win an argument with a captain first.

Her career advanced slowly. Her responsibilities did not.

The officer who first brought her record to the international Mars selectors had never served under her. Nadia Rahman, an engineering coordinator in the United Nations mission secretariat, encountered it while comparing the emergency records of proposed commanders. The secretariat's extra-planetary work would be consolidated under UNEPA, the United Nations Extra-Planetary Administration*8.

Rahman had been sent a polished summary. She requested the underlying reports.

The same details appeared across years of work: equipment returned to service, crews accounted for, repairs completed under difficult conditions, and decisions that remained defensible when someone examined the figures afterwards. In the flooded-crossing file, Rahman found the complaint placed ahead of the successful evacuation.

She moved neither page. She sent both to the assessment panel.

“Read the whole file,” she wrote.

The first list contained thirty-eight candidates. National delegations had supplied commanders whose photographs looked reassuring beside flags. Some had genuine experience of multinational operations. Others possessed excellent recommendations from people with excellent reasons to want them appointed.

The assessments reduced the list to twelve. Technical exercises brought it to five.

Shaw survived each reduction.

She had no great power insisting that the command must belong to her. Britain supported her nomination, but the panel made the delegation submit her evidence against the same criteria as everyone else's. Rahman had drawn attention to her record; she could not supply her answers in the examination room.

A joint board gave Shaw a failed power supply, an incomplete cargo manifest and two departments demanding the same working crew. She asked which inhabited spaces were still holding pressure. Then she asked for the maintenance supervisor who knew the installation.

One assessor interrupted.

“Your priority is to restore the schedule.”

“My priority is to know which part of your schedule can still be done.”

She assigned the available hands, identified the minimum equipment needed to keep the occupied section habitable and postponed work that could safely wait. When the assessors introduced a disagreement between national

contingent leaders, she gave both the measurements they were arguing about and required them to state what their crews could deliver.

Nobody received a favourable answer because of the flag beside his name.

By the final interviews, the American and Soviet delegations were still questioning each other's nominees. French, West German*9 and Japanese representatives had objections of their own. They had spent months insisting that the detachment needed one of their officers.

The panel kept returning to the comparison sheets.

Shaw's record of field command was among the strongest. Her technical assessments had held up under review. She had demonstrated that she could make a decision without borrowing authority from the largest delegation in the room.

The compromise became possible because the case for her appointment could be examined. Delegates might dislike the outcome. They could not dismiss it as another country's prize.

At her final interview, a chairman asked how long she expected to remain.

"Until the settlement can govern itself," she said.

"And if that takes longer than we anticipate?"

"Then you should not appoint somebody who needs to be home by a particular date."

The question returned in the appointment papers. There was provision for medical evacuation, review, relief and resignation through an agreed handover. There was no

routine end date. She would command the joint engineering settlement while its civil institutions were being established. A recognised Martian governing body would eventually assume the authority defined for it under the common charter.

Shaw read that clause carefully.

Her technical expertise might still be needed after the transfer. Whether she remained as an adviser, led an engineering service or went home would be a decision made then. The command itself would not belong to her forever.

She accepted.

Before departure, someone at the briefing office congratulated her on finally receiving the appointment she deserved.

Shaw asked for the latest life-support figures.

She had understood what the appointment required.

Nobody was completely happy.

It was becoming a tradition.

She reached Hale and extended a gloved hand.

"Colonel Shaw."

"Tom Hale."

"I know."

Behind her came men and women from six countries: structural engineers, electrical specialists, communications technicians, two military physicians, a mining engineer and a logistics officer whose first action on Mars was to stare at the cargo field and swear in French.

Shaw looked at Camp One.

"That's it?"

Hale nodded.

"One room, service passage, life support, power and enough water production to keep all of us alive if nothing breaks."

"And if something breaks?"

"Then we fix it."

Shaw studied him through her visor.

"I read your report."

"I'm sorry."

"You disobeyed a direct abort order."

"Yes."

"And now twelve additional people are standing here because you did."

"Yes."

She looked at the habitat again.

"Good decision."

Hale laughed.

That first evening, sixteen people occupied a habitat designed for four.

They ate in shifts. They slept wherever they could. Two engineers slept in suits in the service passage because the carbon-dioxide model said sixteen sleeping adults would push the scrubbers too close to their limit if everyone remained in the main compartment.

Shaw held the first planning meeting sitting on an unopened crate of electrical fittings.

A paper map lay across another crate.

"We stop thinking of this as a mission site," she said. "It is now a base."

Richter pointed at the plan.

"A base requires pressure volume."

"It requires power first," Morozov said.

"Pressure volume without power is a coffin."

"Power without pressure volume is an outdoor generator."

Shaw raised a hand.

"Excellent. We need both. What else?"

The French logistics officer, Captain Étienne Morel, tapped the cargo manifest.

"Storage. We are leaving equipment outside because there is nowhere else to put it."

Nakamura said, "Communications relay."

"Medical."

"Workshop."

"Vehicle shelter."

"Landing zone."

"Food production," said Major Li Wen, a Chinese mechanical engineer attached to the multinational detachment.

Several heads turned.

Morel smiled. "We have food."

“For months,” Li said. “A colony needs years.”

Shaw drew a line down the center of the map.

“Then we build in order of what kills us first.”

That became the rule.

Mars could kill them in several ways. The engineers ranked them.

No air.

No pressure.

No heat.

No water.

No power.

No food.

No shelter from radiation.

No way home.

Everything else could wait.

The second habitat rose faster than the first because sixteen people could solve problems locally instead of waiting for Earth.

The little robots became assistants rather than pioneers. They hauled panels. Humans aligned them. Robots carried bolts. Humans decided which bolts mattered.

The base expanded along a central service spine: pressure lines, power, water and communications buried or shielded where possible. New modules attached to it like blunt metal branches.

They built sleeping compartments first.

Nobody received a room.

A room was a luxury measured in cubic metres of atmosphere.

They built bunks stacked three high. Curtains provided privacy. A narrow common area contained a folding table that served as dining room, meeting room, repair bench and, twice, operating table.

On the twenty-third day a West German engineer named Dieter Voss painted a small number 1 beside the original habitat hatch.

Shaw saw it.

“What’s that?”

“Building number.”

“It already has a name.”

“Camp One.”

“That’s the base.”

Voss considered this.

“What do we call the building?”

Hale, passing behind them, said, “Home.”

The word remained.

By the end of the first month, Mars possessed a place called Home.

*7 The Corps of Royal Engineers is a real British Army engineering corps, whose soldiers are known as sappers. Margaret Shaw and her service record are fictional. Sources: British Army Corps of Royal Engineers .

*8 The United Nations is a real international organisation founded in 1945. UNEPA, the United Nations Extra-Planetary Administration, and its Mars mandate are inventions of the ARES FM universe. Sources: United Nations History of the UN .

*9 “West German” refers to the Federal Republic of Germany during Germany’s Cold War division. East Germany was a separate state, the German Democratic Republic. Both states were established in 1949; German reunification occurred in 1990 in real history. Sources: Berlin Tourism History of the Berlin Wall .

The Port

Camp One, late 1979

The first spaceport began as three circles scratched into dust.

Shaw stood on a low ridge with Hale and a survey team while a rover crawled across the plain below them.

“Primary landing zone here,” the surveyor said. “Cargo there. Emergency pad farther east.”

Hale looked toward Camp One.

“Too close.”

“Another kilometre costs cable and road.”

“A cracked window costs atmosphere.”

Shaw nodded. “Move it.”

The surveyor sighed and moved the marker.

For months, arrivals on Mars were not arrivals in any civilized sense. A descent craft landed. People climbed down a ladder. Cargo was unloaded onto the ground. A pressurized rover came out to collect whoever had arrived.

The first winter changed that.

A military transport came down during a dust event mild enough to permit landing and severe enough to make walking fifty metres unpleasant. Six engineers spent forty

minutes inside the vehicle waiting for a rover that could not find them in the blowing dust.

Shaw called a meeting the next morning.

“We need a terminal.”

Morel laughed.

“We need another reactor, three kilometres of pressure line, two workshops and an agricultural enclosure.”

“We also need people not to die between the spacecraft and the base.”

The first terminal was a pressure tube connected to a hardened receiving room.

It had two airlocks, benches, a medical cabinet and a wall of hooks for suits.

Morel found an old mechanical board in the cargo inventory originally intended for equipment tracking. Rectangular letter tiles could be changed by electric solenoids.

He mounted it above the inner hatch.

ARRIVALS

Beneath it he added rows for vehicle, origin, status and berth.

Shaw stared at the board.

“You built an airport.”

Morel looked offended.

“I built a corridor with a sign.”

The sign changed everything.

People began saying, “Meet me at Arrivals.”

The phrase survived even after the corridor became a hall.

The hall grew around traffic.

A waiting area appeared. Then a cargo desk. Then a pressure door leading to a rover bay. Someone painted a white line along the floor because new arrivals kept walking toward the freight airlock.

A Japanese electrician added a second board for departures.

The two boards clattered whenever schedules changed.

They changed often.

Nothing on Mars arrived on time.

The Earth-to-Mars system had become a chain of stations and shuttles rather than a single heroic flight.

On Earth, conventional orbital shuttles carried people and high-priority cargo from the surface to a growing transfer station in Earth orbit. Long-haul interplanetary ships departed from there on scheduled windows. They were not elegant. Most were cylinders, tanks, radiators and engines wrapped around pressurized crew sections. They accelerated patiently and spent months crossing the dark.

At Mars, a second orbital station received them. Descent shuttles moved personnel and cargo from Mars orbit to the surface.

The system worked because many vehicles were always somewhere in the chain.

It also meant everything was late.

A pump requested in January might leave a factory in February, reach Earth orbit in March, miss one transfer ship, depart in April and arrive at Mars months later.

By the time it arrived, the engineers who had requested it might already have manufactured a substitute.

Li Wen called the supply system “the world’s longest lesson in self-reliance.”

The Americans called it logistics.

The Russians called it normal.

The first permanent pressurized connection from the terminal to the central base was completed after a mechanic arrived with a cracked suit wrist ring and nearly lost pressure before reaching the rover.

Shaw signed the work order that afternoon.

The passage was ugly: a ribbed tube partly buried under regolith, with emergency pressure doors every fifty metres.

The first time Hale walked from Arrivals to Home without wearing a suit, he stopped halfway.

A small window had been installed in one pressure section.

Outside, Mars lay red and empty.

Inside, Hale wore shirtsleeves.

Morozov came up behind him.

“You are blocking traffic.”

Hale touched the glass.

“We’re walking on Mars without suits.”

Morozov looked down at his own shirt.

“So we are.”

Neither man moved for a while.

The first true dome came later.

It was not the vast glass city imagined in magazines. It was a squat pressure structure built from metal ribs, layered transparent panels and radiation shielding, barely large enough to contain a patch of open floor, benches, a table and a few experimental plants.

But there was space above a man’s head.

Real space.

No ceiling close enough to touch.

When pressure tests were completed, Shaw allowed twenty people inside.

Someone brought a ball.

Nobody admitted who.

Within ten minutes, officers, engineers, and technicians from seven countries were throwing it across the dome like children.

Morel missed a catch and knocked over a folding chair.

Shaw laughed so hard she had to sit down.

Hale stood at the edge and watched.

The colony had built its first unnecessary room.

That, he thought, might be the moment it became a colony.

The story continues

Continue with Chapter 5: The Machine Dome.

[Continue reading chapter 5 on ARES FM](#)

Your thoughts would help

Where did your attention drift? Was anything confusing or difficult to believe? Which character interested you most? Would you keep reading?

Please leave your feedback in the Reddit thread where you found this sample. If you stopped early, knowing where and why is useful too.