

Prologue

There was a ship, in space, lost.

It was a large, old, mining transport, designed for long-haul trips to small moons and asteroids. The enormous squat engines and hydrogen scoop underneath gave cheap and steady propulsion, but not much acceleration. The command module was small, but its cargo section was huge, taking up most of the ship.

It was broadcasting a radio signal: —*Earth ship Orion, four months out of Earth and heading for Eos Five. Our location is Sector 278. Coordinates 549 dash 2 by 902 dash 8 as of—*

An experienced miner might notice odd things about the ship. It had been patched and refitted, and its life support systems – gravity, oxygen, food processing – extended to cope with a much larger crew. Extra equipment was fastened round the hull, designed for planet exploration. Rovers, diggers, habitats, all with landing gear but no launch rockets of their own. They could land but they'd

never take off again.

Not a mining transport any more then, but a colony ship, taking a group of brave new-worlders off to some distant settlement, and then staying to help them set up.

—currently adrift, said the message, and we have no propulsion, although our Jump drive is functioning

Four large power generators bulged out near the base, but two of them were cold and dark and only a few of the ship's outer lights were working. It was turning gently, and as it turned, it revealed an enormous scorched rupture near one of the engines.

We have experienced severe damage to the ship.

A ship in deep space hardly ever sent out a distress signal. What would be the point? Ships were like tiny motes of dust in the vast sky, so far apart that the chance of one coming across another by accident was effectively zero. Near Earth, or around the Solar System, sure, perhaps heading to one of the older and more established colonies, on a well-known route. But not out here. Here you could travel for six months and see no one, and no evidence that anyone else had ever existed. Here there were no friends.

Command has been compromised and we are unable to establish order. All command crew ranked able-bodied or higher are disabled and cannot resume control.

In fact, this far out – so far from Earth you could barely see its sun as a tiny flickering star – if you found anyone at all, it would be more likely to be Scrapers, pirates and thieves. Or worse still, the mysterious, alien Videshi: strange, half hidden, half understood, terrifying.

A ship in deep space hardly ever sent out a distress signal, because if you were helpless enough to send one, then you did not want to be found.

The message repeated: *This is a general Mayday from the Earth ship Orion, four months out of Earth...*

Something found them.

1

Beth

“I think I’m going to be sick,” said Beth.

Her mum, strapped into her seat like the other passengers and crew of the shuttlecraft, looked up from her mission manual.

“No you’re not,” she said.

“No, really, I don’t feel so good. It’s the gravity, it’s—”

“No, you’re *not*.” Beth’s mum leaned across and gazed into her eyes. “I know it was pretty intense when we launched. And yes, zero gravity is strange, and a long time ago people *did* get sick, but not these days. You’ve had your pill, and you’ll be fine. Trust me.”

Beth nodded. She didn’t feel fine. She felt as if her stomach was turning over and over, floating free and ready to jump in any direction. She tried to smile.

“OK ... I guess. I feel a bit funny, though.”

Her dad turned to her and grinned. “Me too. I think everyone’s twitchy, don’t you?”

Beth looked around.

The ship they were on – the *transport*, her mum called it – had about sixty seats, all full. Suitcases were strapped against the walls and ceiling to stop them flying around during launch, but a few of them had been unfastened since; they trailed tendrils of Velcro and bobbed slightly, like jellyfish. Most of the passengers were also strapped in, though some had undone their webbing after take-off.

Take-off... Wow. Beth had flown on planes and travelled on the Hoop, but she’d never felt anything like the launch, when the transport and everyone on it had hurled into the sky like a thrown pebble. She hadn’t felt sick then; instead there had been a sensation that she was going to faint, that she was melting into the chair, that she was on the world’s biggest, maddest roller coaster and *she couldn’t get off*.

Then the odd awareness of reaching the top of the climb, and the weightlessness, and that moment just before you fall back down to Earth ... only there was no falling back. Instead they fell *forward*, very slightly, and Beth had watched in astonishment as one end of her strap had floated, gently, in front of her.

And then the seat-belts had unlocked and most of the children had scabbled to free themselves, and the adults had pretended that it was all completely normal. But

they'd been shaking and gaping as much as the kids.

That was two hours ago. After the launch, there had been the long slow drift towards the exit point, and the sight of Earth through a thick window, gradually shrinking. Gasps as the Moon came into sight – still small and far away, but perfectly clear. And after a while, the wonder and astonishment becoming slowly normal.

“We’ll see the *Orion* soon,” said her mum. “Look out for it, towards the left.”

Beth peered through the porthole but couldn't see anything. She shrugged. It would show up on the screen soon enough – the portholes were just a luxury, only on this ship, command class. The other transports were sealed in and twice as full. Benefits of her mum's command position as a lieutenant. Beth smiled. Not quite as posh as the *first-class* cabin ahead, for the captain and senior officers, but even so. Pretty cool.

Her stomach was still bouncing and jumping around. She wondered if Dad was right, if everyone else was really feeling like this. The other children seemed fine. One girl, three rows down, was typing rapidly at a pad on her lap and staring at two screens that floated in front of her, held in place with some sort of thin elastic. Her hair was tied into dozens of thin black braids drifting around her head, fastened with pink butterfly clips; the screens bobbed and

turned and the girl's head bobbed with them. *How is she OK?* wondered Beth.

The other girl felt her looking, glanced up and waved. Beth managed a pallid smile and moved her hand in a tiny 'hello' motion.

Beneath her, she felt a rumble and a momentary sense of weight to one side.

“Look,” Mum said. “You can see her on the screen.”

On the display panel, small but very clear, hung a tiny ship, small as an acorn and about the same shape, fat and round. As it came into focus, passengers looked up from their pads, stopped their conversations. Someone gave a small whoop and people laughed.

“Isn't she something?” said Mum. They stared at the little acorn.

“I dunno,” drawled Dad. “Looks a bit small to me.”

“Oh, she's not!” exclaimed Beth. “She's six hundred and seventy-two metres end to end and four hundred side to side, and – oh, shut up.” Her father grinned and she rolled her eyes.

Mum said, “Ignore him. She's a good size. Plenty of storage, plenty of room for berths.” She smirked. “Even enough for your space chickens, dear.”

“Hah!” he snorted. “And space *pigs*, I'll have you know. And space wheat, and space courgettes, and a whole

space farm for that matter. And if you don't want to be eating flavoured yeast all the way to Eos Five then you'll be nice about them, and nice to the farmer."

Her mum sniffed. "Nothing wrong with transport rations; I've eaten them many times. And your two pigs aren't going to feed a thousand colonists. But don't you worry – we'll still let you have your little garden."

"You do know which way to point that old pile of junk, do you?" he asked. "Could be more than nine months. I've seen you trying to read a map before."

They glared at each other and then giggled.

"Shut *up*, you two," said Beth, going red. "Everyone's *looking*."

Mum waved a hand. "Let them." She shook her head. "Anyway, I won't be navigating. I'm purely third class, scraped in by my knuckles. I'll mostly be making the coffee."

Beth looked across at her. She couldn't imagine anyone ordering Lieutenant Carol McKay to make coffee. With a face apparently chiselled from stone, Beth's mum had grey eyes that looked like they were staring into a storm at sea, and white-blond hair cropped into an army bob. She was born to lead a battalion into battle. Compared to her, Dad seemed like a cheerful bag of laundry.

The *Orion* was closer now, and Beth stared at the screen.

It *did* look like an acorn. And for the next nine months it would be their home. They would live in it, all bundled together, and it would carry them far, far away – so far it was impossible to imagine – to a tiny prick of light, and a tiny pebble around that light, and then...

"It's a new world out there," said Mum softly. "Ship life is awkward sometimes, but it's not so bad. And when we get to Eos Five ... there's a future waiting for us. A chance to make our own decisions, create our own lives."

"I know," said Beth. "But what if something happens on the trip? What about the Scrapers? Or the Videshi..." She shuddered.

Beth's mum shook her head. "No. We're going well away from the common routes. And space is so ... *big*. There's no chance of meeting anything, really. Trust me – the worst thing that might happen on this trip is boredom." She bumped heads gently with Beth. "I know you're nervous, but it will be fine. And when we get there it will be hard work. But it will be *ours*."

She grinned, and despite her worries, Beth grinned back. Yes. She could do this. Everything was going to be great. Yes.

Then she was sick.

2

Day One

Their cabin was small, and beautiful.

Beth had known roughly what to expect; she'd seen layout plans back on Earth and taken the virtual tour. It was like a caravan, or a ship's kitchen, hiding storage space in secret compartments and nooks. Every square metre of wall had cupboard doors. There was a sofa with drawers underneath and a large screen that folded away. Everything seemed to be made of wood, which was nice, even though she knew it wasn't real. A warm carpet felt soft underfoot as she walked in.

Walking... Thank *god*. When they'd finally docked with the *Orion*, after what seemed like hours of waiting (with the faint smell of sick and cleaning foam pervading the shuttle, and everyone pretending not to notice), Beth had felt the gentle pressure of gravity push her into her seat and had groaned with relief.

Dad had given her a hug. "That's it, love," he'd said.

"You made it. Normal gravity from now on, eh?"

She knew this wasn't quite true. The 'gravity' on board *Orion* was a force generated from the middle of the ship, like an apple core. If you went out to the edges you would feel it less, and as you climbed down inwards you would feel it more ... until you reached the centre, and it simply disappeared.

Weirder still was that it always pulled towards the core, so people round the far side of the ship seemed 'upside down' compared to you. Normally you couldn't see them, but as you moved towards the front you would meet them in corridors that came together as the gravity faded away. The thought of it made Beth's stomach wobble again.

But here everything seemed normal. Her legs lifted her and moved her about, things stayed where you left them, and she walked into their new home and looked around.

The ceiling was low, but there was space to stand up. They had a tiny kitchen nook, enough to make tea or coffee or a snack; they would be eating from the ship canteens for the most part. Her parents had one small bedroom and Beth another, even smaller, just a narrow raised bed with cupboards and a tiny workspace underneath. The opposite wall was less than an arm's reach away; it was like living inside an egg. She loved it the moment she saw it.

She unpacked in ten minutes. A pile of clothes dumped into the cupboards, a precious few knick-knacks on a thin shelf. Her diary – an actual physical book, a real luxury and her one true indulgence – stowed safe with some pens under her pillow. A couple of posters on the ceiling, and she was done. She sat on the bed and looked around, happy.

Her mum knocked on the wall next to her door and leaned in. “Hey.”

“Hey,” said Beth, smiling.

“All unpacked? Everything neatly folded and put away?”

“Oh, sure.”

“Uh-huh.” Beth’s mum looked sceptical. “Dad’s gone to the farm to see how the animals are doing – want to join him?”

Beth shrugged. “Maybe later. Can I explore?”

Mum nodded. “If you head towards the front, you should be able to find the cafeteria. That’s probably where everyone will be. If you get lost, ask the ship.”

So Beth found herself outside the cabin, trying to remember whether the front of the ship was left or right. She picked left and wandered along, examining everything.

The corridors were squat and plain – no fake wood

here, just metal and cream paint that still smelled recent. Messages and indicators flickered by on display panels along the walls. The *Orion* was an old ship and even with the new paint the corridors felt aged.

There was a faint rumbling sound everywhere she went, perhaps from the generators. Sometimes the corridor sloped downwards, and occasionally she came to a split and picked directions at random. They always seemed to lead to more corridors; the ship felt *huge*.

Eventually she gave up.

“Ship,” she said, and in front of her a head appeared: the face of Ship, the *Orion*’s central interface.

The head was a hologram, apparently floating. It was blue, and completely smooth and bald. The designers had shied away from making it look *too* human, because that sort of thing creeped people out. But its eyes were very lifelike.

“Hello, Beth.” Ship’s voice was calm and neutral, neither warm nor cold.

“Can you tell me how to get to the cafeteria?” Beth asked.

“There are six cafeterias on board the *Orion*. One is for command personnel only, two are located towards the stern, two are—”

“Just the one nearest our cabin, please.”

If the avatar was upset at being interrupted, it didn't show it.

"The nearest cafeteria is one hundred metres away. Turn round and follow the corridor until it branches. Take the left corridor. I will show these directions on the screen."

The panel next to Ship blinked and a little figure appeared in orange. A line traced out from the figure, back along the corridor.

"Thank you," said Beth.

"You are welcome," said Ship, and disappeared.

Turning round, Beth followed the line. As she passed each panel it lit up with her trail, and at the junction it blinked and she obediently turned left. She realised there was someone up ahead, coming towards her, chattering and feet pounding. For a moment she—

"Argh!"

Someone ricocheted round the corner and crashed into her, knocking her to the ground. Pads and other gadgets bounced around them.

"Oops! Sorry! Ha ha!" It was a small girl in a pink T-shirt, who was now scurrying around and picking up her things. She had black braided hair decorated with butterfly clips. Beth realised dazedly that she was the girl from the transport.

"*Up* you come, hello!" She pulled Beth up and then stared at her, then at one of her pads, then at Beth again.

"Hello ... Beth!" she said proudly. She peered again. "Beth McKay, hello! I'm Limit. Isn't this *awesome*?"

"Sorry, what?"

"This *ship*. Isn't she great? Have you seen the gravity? It's fantastic, it's like field lines, have you seen how it changes in waves? *Awesome*. You were on the transport!"

Beth blinked.

"And then you were *soooooo* sick, it was *awesome*. Mikkel — this is her, the girl who was sick! It's the zero-g, it totally messes with you, plus it's completely unhealthy long-term and does stuff with your bones which is why they put in the gravity here even though it's so expensive and uses power like crazy. *Have* you noticed the field lines?"

"Wait!" croaked Beth. She held up one hand. "Wait a minute. Er. Hello. I'm Beth."

"I *know*, you're Beth McKay, and your mum is ... comms ops, and your dad is ... *cool*, applied agriculture —" the girl read the information off her pad — "and you're in Cabin Sixteen/Thirty-two and, and—"

"Lauryn, she knows this."

For the first time, Beth noticed the boy next to them. He was shorter than Beth, thin and pale with white-blonde hair, and he wore rumpled jeans and a grey jumper. His

eyes were grey too, and pale, peering through his fringe. He spoke with a soft Norwegian accent, or perhaps Swedish, and his face had a slightly dreamy look, as if he was only half there. He smiled gently at Beth.

The girl stopped and grinned. “Hello,” she said cheerfully.

“Hello ... Lauryn?”

Lauryn nodded. “Yeah, but that’s just my normal name. My *handle* is —” she raised a hand and made some sort of gesture — “*Limit*. You should call me that.”

“Limit?”

“Totally! What’s your handle?”

“I’m just Beth.”

“That’s OK, you’ll think of something. This is Mikkel; he doesn’t have a proper name yet either.” Mikkel nodded.

Lauryn/Limit pointed her pad at Beth. “We’ve been tracking you!”

“What?”

“On the pad! I’ve figured out how! We saw you coming down the corridor.”

“I told her we could ask Ship,” said Mikkel, shrugging, “But she wanted to work it out herself.”

“Why were you tracking me?”

“Well ... you were the only one I could find. The tracker’s got a limited range. But also because you were

so *cool* when you threw up — *bleurghhhh!*” She mimed being sick, then turned to Mikkel. “You should have seen it, zero-g sick, it just went *everywhere*, and then all these cool flying robots came down, and *sucked* it up, and everyone was, like, *eeeeewww*, and—”

“OK!” snapped Beth. “Yes, I was sick. It was the zero grav—”

“That’s what I *said*. That’s why the gravity here is so awesome. In fact, this ship is awesome all *over*. Have you scanned the engines yet?”

“Er, no?”

“You should! They have some sweet automation, it’s all wired to Ship, it’s completely routable everywhere and all the cabling is embedded into the infrastructure and, and...”

“It’s awesome?” ventured Beth.

Lauryn nodded wildly. “*Totally*.” She trotted off down the hallway. “C’mon,” she said, waving her pad. “I want to try this some more.”

Mikkel followed her and Beth found herself pulled along in their wake. “Try what? Where are we going?”

Mikkel said, “We are trying Lauryn’s app. It works out who people are by—”

“By scanning their faces and matching them to the pre-flight profiles they put up, you know, where they

introduced everyone. Look—” Lauryn thrust the pad at Beth, who saw a brief glimpse of her passport photo. “It taps into Ship’s processors for the face recognition. Anyway, I want to try it out with a crowd, so – here goes!”

She paused, and Beth realised that they were at the entrance to the cafeteria. Lauryn dived in, and Mikkel too, leaving Beth standing outside on her own. She shook her head in bemusement, and then grinned.

Here goes, she thought, and followed them in.